Beyond Disability: Towards an Enabling Society

A Sport and Recreation Centre for the social Integrations between the Majorities and Minorities

Yu-Wei Fan
0200215F

A design project submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in fulfilment of the requirements of the degree of Master of Architecture (Professional)

Johannesburg, 2008

Declaration

I, (Yu-Wei Fan, student no: 0200215F) am student registered for the course Master of Architecture (Professional) in the year 2008. I here by declare the following:

I am aware that plagiarism (the use of someone else's work without permission and/or without acknowledging the original sources) is wrong. I confirm that the work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise. I have followed the required conventions in referencing thoughts, ideas, and visual materials of others. For the purpose, I have referred to the Graduate school of Engineering and the Built Environment style guide. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of the ideas or words in my own work.

Signature:_____ Date:_____

This document is submitted in partial fulfillment for the degree:

Master of Architecture (Professional)

At the University of the Witwatersrand, Johannesburg, South Africa, in the year 2008.

Acknowledgements

My acknowledgements first extended to my family, and especially my parents for their moral support, although we are apart, your love is always with me. Thank you for always ensuring that I managed to do what I want to and supporting me in everything I did, thank you so much in everything.

I would like to express my gratitude to all those people who have contributed to the materialization of this dissertation. Your input has been invaluable and is much appreciated.

- To all the respondents for the interview/ questionnaires, whose ideas and experiences have proven to be valuable in this study.
- My brother, Mike and Mannie for their moral support.
- Terrence and Howard for their constructive and yet inspiring crit.
- Nichol for his engineering comments that makes sure my building will stand.
- David for his CAD technical supports when every time my PC is not working properly.
- CNN, BBC and e-news channels for keeping me aware of how fortunate I am to be the one who is able to attend school for education.
- University of the Witwatersrand and Martienssen Architecture Library for providing all the research materials.

And special gratitude to my supervisor: Professor Paul Kotze and Mohammed Munchi, whose guidance and comments have enabled me to create a better piece of work, and thanks to Professor Paul Kotze for using his private time to provide guidance during his sabbatical at the second half of the year.

Images by author

Abstract

This dissertation is not only about the production of a building: it is rather a progressive report, which documents the process and development of my personal manifesto of the inter-relationships between: the social and physical effects of sport activities and people with disabilities, in public open spaces in the city. It aims to serve as an instrument to demonstrate the insight of my experiences, from taking a contemporary social issue (segregation of disabled people from the main society) and urban issues (lack of interests and abandonments of public park spaces in our city) into architectural theories.

The research did not begin from a particular point towards a specific building type or programme; instead, I located the base of the research by reinterpreting a personal experience and looking into a specific social/contextual condition. It begins with an assessment of people with disabilities and the built environments in the form of interviews, surveys and academic research. The aim of this exercise is to provide first hand contact with disabled peoples' needs and priorities. Then the theoretical research which revolves around the notion of public safety in the park - one of the major reasons which decrease the willingness of the public to use it. Together with the findings derived from site analysis and precedent studies, I will then consolidate the arguments by developing an experimental architectural prototype which directly aims to substantiate the theory, and the building structure itself will be the projector that materializes the programme into real context and thus gives justification to my manifesto.

Introduction:
Disability and Sport

1.0

1.1 Motivation

Participation in sport and recreational activities is the right of every individual. It is an integral part of leading a meaningful and balanced life. In today's society where there are many pressures forced on individuals and families alike, however, sport and recreation remains the main healthy outlet to offset these tensions.

This applies not only to the able-bodied but also the disabled.

For the disabled, sport and recreation has the added dimensions that it is an effective tool in the rehabilitative process. The psychological benefits of physical activity are many: the ability to participate leads to self motivation which in turn leads to other accomplishments.

The phenomenal success of the International Special Olympics and International Paralympics Games has demonstrated the ability of persons with disabilities to be elite athletes who train and compete as hard as their able bodied peers. Today, we see people in wheelchairs on the tennis and basketball courts, people who are blind cycling and running with guides. Clearly, people with disabilities have the same sport and recreation aspirations as the able bodied and derive the same benefits.

In South Africa, within its 47 million (2007) of population there are about 1.7 million disabled people; 1.5 million physically disabled and 200 thousands mentally disabled. (DPSA 2000)

On reflection, because of the limited opportunities for sport and recreational activities for disabled in Johannesburg. At present, according to Disabled People SA, there is only Mandeville Sports Club in Kensington which provide formal sporting facilities for the physically disabled but only at community/ neighbourhood scale. Therefore, many of the other disabled have lead to segregated and sedentary lives, resulting in the accumulation of health risk and social isolation factors.

Therefore, the need for a facility where the able-bodied and the disables can train, participate and socialises with family and friends is prime importance. It would also be the sport and recreational centre which provide integrated facilities for both the able-bodied and the disable people and host sport events at competition level.

Fig 2- Disability and Segregation
Available from:
http://www.nous.co.nz/DSSClaimsProcessing.jpg [accessed: June 2008]

1.2 Background and Context

1.2.1 Definition of Key Concepts and Terms

What is disability?

There are many definitions and descriptions of 'Impairment', 'Disability' and 'Handicap'. It is however important to note that according to Disabled People South Africa, as referred to DPSA, the international disability rights movement never really accepted these definitions, as they were developed without consultation with people with disabilities themselves, and they did not sufficiently reflect the social context - in other words the attitudinal, physical and communication barriers - that prevented people with disabilities from participating as equal citizens.

Image by author

Some disabled organisations have attempted to develop a more acceptable definition of disability:

'Disability is the disadvantage or restriction of activity caused by a society which takes little or no account of people who have impairments and thus excludes them from mainstream activity.' (DPSA 2000)

Why the need to define disabled people?

People with disabilities have for some time now struggled with the issue of defining disability. Policy-makers and service providers are usually quick to point out not only the advantages, but in fact the necessity, of categorising disabled people into clearly defined groups for the purposes of service delivery, education, social security, employment equity etc. (DPSA 2000)

However, experience over the years have taught people with disabilities that definitions tend to become mechanisms that are used to exclude and marginalize disabled people, rather than enabling tools for positive action, development and social integration.

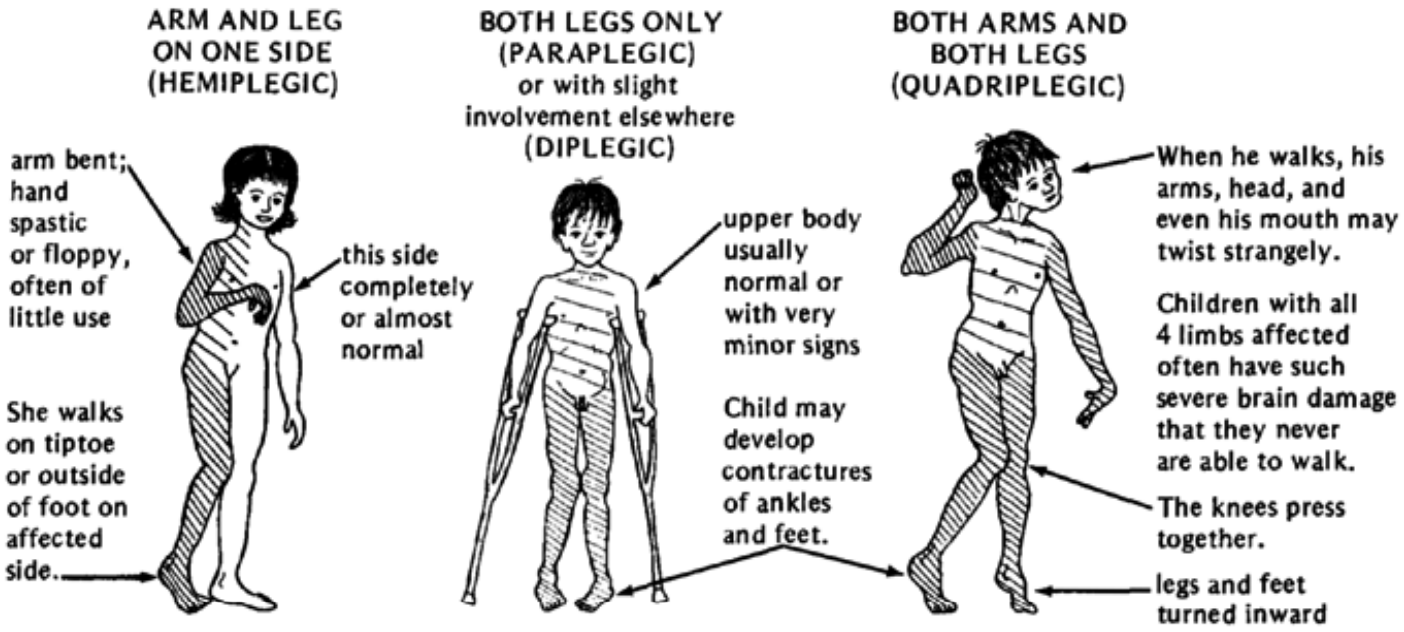


Fig 3- Physical Disability
Available from: www.dinf.ne.jp/.../david/dwe002/dwe00211.htm [accessed: June 2008]

Physical Disabilities

Physical disability refers to damage to muscles, nerves, skin, or bones that leads to difficulties in moving, performing activities of daily living. Some examples of physical disabilities include: (SASAPD 2005)

- Cerebral palsy - resulting from damage to the brain (often during birth) that causes muscle Inco-ordination.
- Quadriplegia - a substantial loss of function in all four limbs.
- Paraplegia - a substantial loss of function in the lower part of the body.
- Hemiplegia - a substantial loss of function on one side of the body (arm and leg), often due to a stroke or as a result of epilepsy.
- Post-Polio Paralysis - weaknesses in some muscles, and under-development of some limbs.

People with physical disabilities experience different barriers that limit their participation in ordinary activities, for example, in the built environment, where steps might prevent a lawyer using a wheelchair from entering a court building, thereby preventing him from practising as a lawyer.

Assistive devices are very important tools that are used by people with physical disabilities to overcome barriers, for example wheelchairs, walking frames, crutches, orthotics and prosthetics, communication devices such as communication boards and specialised computers, and adjustments to motor vehicles. People with severe physical disabilities in addition often require assistance in the form of personal assistants and/or service dogs to enable them to live independent lives. (DPSA 2000)

Medical Model Approach

Traditional approaches say that the inability to carry out activities is caused by impairment or impairments; for example, you are not mobile because you have a spinal injury. This understanding of disability is said to be a medical model of disability because the causes of disability are attributed only to medical conditions. A person therefore has a disability if he has a physical or mental impairment which has a substantial and long term effect on his ability to carry out normal day to day activities if it affects one or more of the following: mobility, physical coordination, speech, hearing, eyesight, memory or ability to concentrate or learn or understand, and perception of the risk of danger. (DPSA 2000)

However, the most serious accusation against the medical model is the exclusion it creates in the person with a disability. There is a belief that the professional is the "expert", the controller of knowledge with the right and power to direct the situation. The disabled person is regarded as the client or patient. Not only disabled people are deemed incapable of making decisions about their own lives, but also resulted in the hierarchical relationship itself presented.

Social Model Approach

The social model is not limited by such a narrow description of activities. It takes the wider view that the ability to undertake such activities is dependent upon social intervention. It can show that the limitation of activity is not caused by impairments but is a consequence of social organisation.

The social model says that a person is disabled if the society at large will not take into account of their physical or mental differences. This undoubtedly demands a great deal of change in the relationship between professionals and people with disabilities, changes that have caused enormous feelings of inadequacy and discomfort in able-bodied professionals (DPSA 2000).

People often talk of following a 'combined' medical-social approach to disability. It is clear from the above that this is not possible. The Social Model accepts that disabled people have medical conditions which may inhibit them and which may need medical treatment from time to time.

But it goes on to argue that most of the day to day problems that disabled people face are caused by the fact that they live in a hostile, disabling world which is largely designed to suit able-bodied people.

Using the social model, disabled people are able to identify the factors that cause oppression and discrimination, and which disable them, and can choose to work towards doing something about them. They can feel good about themselves when their lives are not going well. Disabled people can say 'it is not me or my body that is at fault, but the society around me) '. By helping to draw attention to the barriers in society, the social model offers solutions that are wider than trying to change the person or curing the individual impairment. The disabled person can now stop being sees as a tragic failure and can be seen as someone who is discriminated against by the way society is organised.

1.2.3 Sport Organizations for Disabled People in South Africa

The Inaugural meeting of the South African Paraplegic Games Association was held on Monday, 12th November 1962 at the Old Edwardian Club, Johannesburg. The formation of the Association was largely brought about by the efforts of the members of the Rotary Club of Orange Grove, Johannesburg (SASAPD 2005). National games were held in alternate years for the different race groups. Initially catering for Field & Track, Swimming, Archery and Bowls, the Association soon extended both the number of sports being catered for and during the mid seventies changed to become the South African Sports Association for Physically Disabled as referred to SASAPD, incorporating paraplegics, cerebral palsied, amputees, visually impaired and other physically disabled athletes.

According to SASAPD, the first multiracial South African team participated in the Paralympics Games in Canada in 1976 and in 1980 South Africa was expelled from the Paralympics Games marking the start of the isolation years. For five years, we were once again forced to withdraw from any further international participation. South Africa was re-admitted to the international arena at short notice in 1992 with an invitation to send 2 athletes to the Barcelona Paralympics, which after much lobbying was finally increased to 11 places.

During the 1990's The National Paralympics Committee of South Africa as referred to NAPCOSA, was established as an umbrella body for the deaf, intellectually impaired, blind and physically disabled. The visually impaired and blind was since 1998 included in the SASAPD. SASAPD provided in the needs of persons with cerebral palsy, blind and visually impaired, spinal cord injuries and amputees.

After the 2000 Sydney Paralympics, NAPCOSA identified the need to change. The Deaf see themselves not as persons with a disability, but rather a sub cultural group with an own language (sign language). On 1 April 2001 Disability Sport South Africa as referred to DISSA, was formed as a Section 21 Company. DISSA is the controlling body for sports for persons with disabilities in South Africa. In April 2005, South African Sports Confederation and Olympic Committee as referred to SASCOC, was formally recognised as the controlling body for High Performance Sport in South Africa and currently DSSA is in the process of dissolving whereby the responsibilities for High Performance Sport (Paralympics in our case) will fall under SASCOC and development will be the responsibility of SASAPD. (SASAPD 2005).

Please refer to *annexure A* for sport for the Disabled in South Africa Internationally and nationally for a full breakdown on the affiliations of the various National Federations in South Africa.

Key Note:
Year Established
1970's SASAPD - South African Sports Association for Physically Disabled
1990's NAPCOSA - National Paralympics Committee of South Africa
2001 DISSA - Disability Sport South Africa
2005 SASCOC - South African Sports Confederation and Olympic Committee

Sports Offered for People with Disabilities in South Africa

Sports recognized by South African Sports Association for Physically Disabled (SASAPD)						
	Spinal Cord	**Amputee**	**Cerebral Palsy**	**Visually Impaired**	**Intellectually Impaired**	**Deaf**
Archery (P)	X	X	X	X		
Athletic (P)	X	X	X	X	X	X
Badminton						X
Basketball (P)	X	X	X		X	
Cricket				X	X	X
Cycling (P)		X	X	X	X	
Equestrian (P)	X	X	X	X		
Football (P)		X	X	X	X	X
Golf	X	X				X
Lawn Bowls	X	X	X	X		X
Netball					X	X
Power Lifting (P)	X	X	X	X		
Rugby (P)	X					X
Sailing (P)	X	X	X	X		
Skiing (P)		X	X	X		
Shooting (P)	X	X	X			
Swimming (P)	X	X	X	X	X	X
Table Tennis (P)	X	X	X		X	X
Tennis (P)	X	X			X	X
Volleyball (P)	X	X	X		X	

(P) = Sports in the programme of the International Paralympics Games

Table 2. Disability Sports offered in South Africa
SASAPD, 2005. *Formation of sport structures and the position of SASAPD* [online] available from: http://www.sasapd.org.za/data/Sport.htm [accessed: March 2008]

1.2.4 Sport Organizations for Disabled People, International

International Paralympics Committee (IPC)

International Paralympics Committee (IPC) was established on September 1989, in Dusseldorf, Germany. The IPC currently serves as the coordinating body for international sport for people with disabilities. Its purpose including the following (DePauw & Gavron 1995: 32):

- To seek integration of sports between people with disabilities and able-bodied as an international sports movement
- To assist and encourage educational programs, research, and promotional activities to achieve the purpose of the IPC
- To seek expansion of opportunities for disabled person to participate in sports and of their access to training programs designed to improve their proficiency

The IPC welcomes full and associate memberships. Full membership includes the international organizations of sport for individual with disabilities.

Special Olympic International (SOI)

In 1986, Eunice Kennedy Shriver founded Special Olympic International (SOI) and hosted the first International Special Olympic Games in Soldier Field, Chicago, USA (DePauw & Gavron 1995: 50). The mission of Special Olympic is to provide year round "Olympic-type" sport training and competition for children and adults with disability around the world.
The goal of SOI is to help "bring all persons with disabilities into the larger society under conditions whereby they are accepted, respected and given the chance to become useful and productive citizens" (SOI 2006).

People with physical and mental disabilities and are 8 or more years of age and have significant learning or vocational problems are eligible to participate in Special Olympic programs. International competitions are held every two years, alternating between the winter and summer games.

Fig 1 - IPC logo
Available from: http://www.nyc.gov/html/sports/gif/ipc_new.gif [accessed: March 2008]

Fig 2 - Special Olympic Logo Available from: www.boozallen.com.au/media/image/SpOlympics_logo.jpg [accessed: March 2008]

1.2.5 The UN African Decade for Disabled People

According Disable People South Africa, the United Nations Decade of Disabled Persons from 1983-1992, and the Asia-Pacific Decade of Disabled Persons declared from 1993 – 2002. The United Nations declared 2000-2010 as the African Decade of Disabled Persons.

According to *South African Sports Confederation and Olympic Committee (SASCOD),* Disabled people organisations in Africa have started mobilising for an Africa Decade of Disabled Persons after the 5th DPI World Assembly in December 1998, at their Africa meeting. The six major international organisations of disabled people gave their unwavering support to the Declaration of an African Decade for Disabled People at their meeting held in January 1999 in Cape Town, South Africa.

The Organisation of African Unity (OAU) has declared 03 December 1999 - 03 December 2009 the Decade of Disabled Persons in Africa,(DPSA 2000) with the objectives of Strengthening the African voice of disabled people, putting disability on the social, economic and political agendas of African governments, and one of its agenda includes the promotion of sporting programmes for people with disabilities.

On the local scale, the Reconstruction and Development Programme (RDP) of South Africa has also make special reference to the role of sport and recreation in developing our human resources and make special mention of supporting the disabled in all factors of life with the underlying theme of integration and acceptance by the community at large. It is seen as an integral part of reconstructing and developing a healthier society.

Both images available from: http://www.[illegible]dproject.org/images/african.jpg [accessed: June 2008]

Left and right - UN African Decade for Disabled People

1.3 Issues:
Barriers to inclusion in Sport for Disabled

Society's attitudes about people with disabilities in sport have led to specific barriers to participation and many of the barriers are similar to those experienced by women and other marginalised groups (DePauw & Gavron 1995: 11). These include the:

a) **Accessibility**
b) **Lack of access to training programs and coaches**
c) **Economic and affordability**
d) **Lack of role models in disability sports**
e) **Segregation of able and disabled people in sport and recreational activities**

a) Accessibility

Facilities that are accessible to all disability groups are in short supply, even though laws have been passed that require accessibility for disabled. At present there is only Mandeville Sport Club in Kensington which provide sporting facilities for the physically disabled at community/ neighbourhood scale.

There are number of Virgin Active clubs and community based sport clubs that made provision for the disabled but there is no ideal attempts made to understand the needs of the disabled. Emphasis must be placed on the local level such as full access to the whole building and appropriate space arrangements and equipments to provide the physical accommodation and accessibility to people with disabilities who wish to participate in sport.

b) Lack of access to training programs and coaches

At present there are inadequate training programs that have been designed specifically for disabled, and athletes with disabilities have suffered from the lack of coaches available to help them train. Most of the athletes have been self-coached. They need trained and professional coaches.

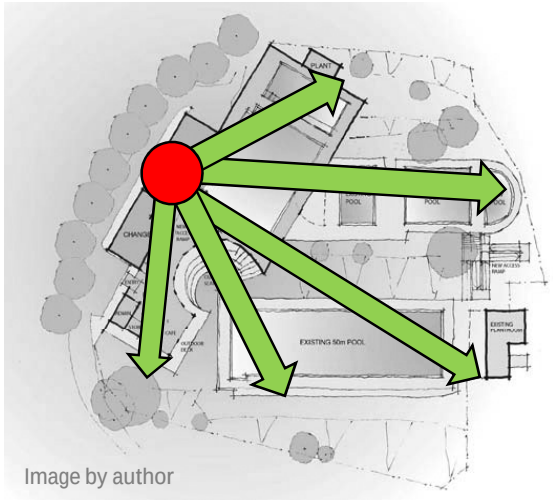


Image by author

Many facilities claim they are disabled friendly, but in reality many areas inside are still restricted.

Fig 2- Training Disabled
Available from:
http://www.inclusivefitness.org/images/news/IMG_37361.JPG[accessed: June 2008]

To train disabled people, special training programs and staff are needed.

Fig 2- Nike Commercial Advert
Available from:
http://img517.imageshack.us/img517/3935/image5in8.jpg [accessed: June 2008]

Role models help to promote participation in sport, however, in this segment, disability sport have always been ignored.

c) Economic and affordability

Economic factors often remain as barriers to sport participation by disabled. The cost of necessary equipments can be especially prohibitive. Many disabled do require some additional equipments or assistive device (e.g. wheelchair, sighted guide, and visual cues).

d) Lack of role models in disability sport

Visible role models are valuable to the development of disability sport and the encouragement of sport participation by disabled people of all ages. Back in the 1980's and 1990's, athletes with disabilities have been featured in commercials and on the cover of sport magazines (DePauw & Gavron 1995: 11). These, along with television coverage of selected events, have helped the disability sport movement become increasingly more visible. However, attention to disabled sports seems to be fading away more and more in current commercial media.

e) Segregation of able and disabled people in sport and recreational activities

The way in which current facilities are provided for the able-bodied and disabled leads to separation rather than integration, and thus making it difficult for the disabled to become part of the society and also for the able-bodied to understand the difficulties facing the disabled.

This separation is especially hard for families who wish to participate together in sporting activities where perhaps only one member of the family is disabled and others are able-bodied.

1.4 Proposition and Objectives

At this point, one may ask, what's architecture got to do with disability? Since in many other occasions, disability itself could be an independent research topic in the field of sociology and medical studies.

As an architecture student, this dissertation will be developing around the notion of integration between majorities and minorities. From architecture point of view, the first integration of majority and minority is to use architecture to provide a space that will allow integration for disabled people to participate in sports with everyone. Within this particular type of architecture, I will be looking at another integration of majority and minority, which are man-made architecture and natural landscapes – use natural elements to create a "**Healing Space**" for disabled people.

I will try to demonstrate through **space planning** and **design implementations**; it will allow people with disabilities to train and compete in sport at the same level with able-bodied. And therefore, I could say architecture here will be used as one of the physical **tools** that will encourage the society to interact with people with disability and let people with disabilities to gain more self-confidence in themselves, like the topic suggested: go beyond disabilities, enabling disabled people to be recognized as a group with entitlements.

Therefore, the need for a facility where the able-bodied and the disabled can train, participate and socialise with family and friends is prime importance. It would also be the sport and recreational centre which provide integrated facilities for both the able-bodied and the disabled people and host sport events at competition level.

Because of the centralisation of such a facility it would also be possible to acquire the necessary specialised equipments for the disabled which could be held at the centre for general use by the disabled and hired out when necessary. It goes without saying that such equipment are very expensive and therefore could not be provided to a variety of smaller centres. Such a centre could provide the role model for others to follow.

Ultimately the facility would provide the social integration of the able-bodied and the disabled. It would allow families to participate in sports and recreation together, provide motivations and confidence to people with disabilities which in turn leads to other accomplishments and thus bring back the sense of community that has been missing in most modern society.

The objectives of this proposition would be:

- To provide integrated and accessible sport/recreation services which are critical to the quality of life for people with disabilities.
- To develop a multi-purpose sport/recreation training centre that focus on providing opportunity for skill development (training for the trainers and coaches) and training for all.
- To maintain a strategic planning that ensures the directions, priorities, and programmes that will meet the changing needs of the community.
- To provide and facilitate the provision of physical, cultural, social and recreation activities that meets the needs of all the segments of the population.

People with Disabilities and Built Environment

In order to obtain a more detailed understanding of the inter-relationship between people with disabilities and built environment, a series of surveys with disabled people was conducted. The aim of this exercise was to provide architects and planners with first hand contacts with disability and to test out some of the architectural provisions which had been made about disabled peoples' needs and priorities.

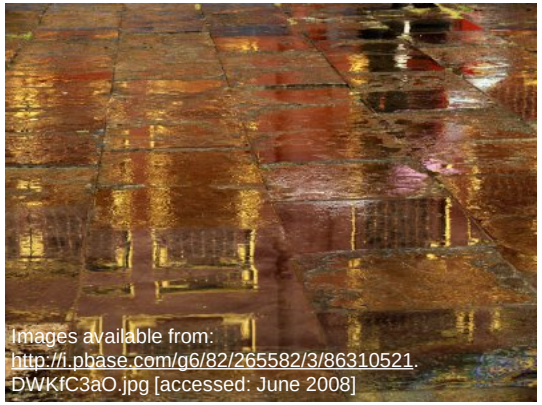
2.0

Summary Table of the Survey – Disabled People and Built Environment
by author

Respondent: Disability/ aids to mobility	Transport	Preferred Parking	Road crossing	Pedestrian circulation	Preferred ground surface	Protection from weather	Ramps of 1: 12 gradient	Flight of not more than 10 steps	Pedestrian distance	Lifts	Escalators
Respondent A Dystrophy/ Wheelchair	Private car as passenger		Must be pushed	Prefers an uncrowded route	Tarmac preferred	Sensitive to cold	Acceptable	Impossible	Depend on person pushing	Good	Not acceptable
Respondent B Poliomyelitis/ Wheelchair	Drive own car	Problem finding parking close to destination	Difficult to negotiate as self-propelled	Prefers an uncrowned route	Smooth but non-slip	Finds wet weather dangerous	Short ramps only	Impossible	50m independently	Good	No experience of using them
Respondent C Leg amputation/ Semi-ambulant with one crutch	Drives own car	Parking must be near destination	Difficult	Balance problem, avoid crowds	Smooth and leveled	Likes shelter from rain and wind	Acceptable	Possible but not preferred	200m without difficulty	Good	Good
Respondent D Poliomyelitis/ Crutches	Private car as passenger	Close to destination	Difficult	Dislike being jostled	Non-slip essential	Need protection from rain	Acceptable	Possible with hand rails provided	100m without break, finds seats helpful	Good	Good
Respondent E Leg amputations/ Wheelchair or crutches	Private car as Passenger	Close to destination	Dislikes high kerbs	Uncrowded routes helpful	Non-slip essential	Need protection from rain	Acceptable	Impossible with wheelchair, manageable with crutches	1km with wheelchair, 500m crutches but slowly	Good	acceptable
Respondent F Leg amputations/ Wheelchair	Private car as passenger	Close to destination	Dislikes high kerbs	Feel nervous in the crowds	Smooth and leveled	Dislikes strong sun lights	Acceptable	Impossible	1km self-propelled	Good	Impossible

The surveys were conducted in the form of anonymous questionnaire that focused on how designs and planning in built environments have affected their way of living. The location of these surveys was held at Mandeville Sports Club in Kensington, Johannesburg. Mandeville Sports Club is known as one of the leading sports clubs that provides sporting facilities for disabled people.

The findings followed by these surveys should not be regarded as a representative sample of the disabled population as a whole. However, certain useful ideas emerged from these surveys, and presented simply as a mean of some helpful points for architects and planners to consider when designing a more user-friendly environment for disabled people.



Images available from: http://i.pbase.com/g6/82/265582/3/86310521.DWKfC3aO.jpg [accessed: June 2008]

Images available from: http://tilgaengelighed.emu.dk/tilgaengelighed/fysisk/expl/kua_hb1.jpg [accessed: June 2008]

Images available from: http://www.infobritain.co.uk/Abbey_Road_Crossing.JPG[accessed: June 2008]

Weather conditions, lack of reserved parking spaces and **road crossing** are three major difficulties that disabled people encountered outside their home

2.1 Summaries of the Survey

2.1.1 Difficulties Encountered Outside the Home

Almost all the respondents agreed a hostile weather conditions as their greatest problem. In the first place most of these people move slowly and are therefore vulnerable to cold and rain. Rain makes ground surfaces dangerous and slippery, and unmanageable by disabled people whose balance is often unstable: crutches slip and wheelchair skid in these conditions.

The second problem mentioned by the disabled respondents who owned cars was the difficulty of finding parking spaces near enough to their destination. This is of course a common problem to most cities but several respondents mentioned that it was made more difficult for them because they were afraid to cross busy roads. When one considers that they would not wish to walk too far in bad weather, and would invariably have difficulty in carrying their personal belongings any distance, it is clear that disabled people are very restricted in their choice of parking space. Therefore, it is essential to reserve parking spaces immediately or as close as possible adjacent to their destination.

The difficulty of crossing roads was mentioned by the respondents. The problem for disabled people is that they move very slowly and are not able to take advantages of small gaps in the traffic. One respondent said that the phased traffic lights at pedestrian crossings rarely allowed him sufficient time to cross. Several of the respondents have also mentioned kerbs as a problem when it comes to crossing the roads.

2.1.2 Ground Surfaces in terms of Mobility

Respondents were asked to comment on each of the following suggested aids to mobility. Saying whether they thought each facility essential, useful, or no particular interest. Suggested aids to mobility were:

- **Smooth, non-slip surface**
- **Handrails on steps and ramps**
- **Resting places with seats**
- **Quiet uncrowded routes**

Smooth but non-slip ground surfaces were said to be essential from all respondents, as it can prevent crutches to slip and wheelchairs to skid.

Handrails on steps and ramps were of interest only to the ambulant disabled respondents with the use of crutches. For these respondents they were essential as they would not be able to climb stairs without handrails, and to others handrails were an important psychological aid, their very presence can be viewed as a form of reassurance.

Resting places with seats received favourable reactions from respondents. As most disabled people require more effort to commute from place to place, providing more resting places will be particularly helpful.

In response to the question on quiet uncrowded routes, the majority of respondents said that they were careful to avoid very crowded places. It appears to be because they were self conscious and did not like to feel that they were obstructing other people. The crutch users were afraid of being unbalanced and knocked over in crowds.

All the respondents were satisfied with the suggested aids to mobility in the list, and very few had any other suggestions to make. However, one wheelchair user mentioned the difficulties experienced with doors, and said an environment with less open and closing actions will be helpful.

2.1.3 Changing Levels

Respondents were asked which of the following methods of changing level they could manage without experiencing problem: escalators, flight of not more than 10 steps, lifts and ramps of not more than 1:12 gradient.

The replies from wheelchair users were quite straightforward as expected. They said they could not use escalators or steps at all, they found lift ideal, and ramps of not more than 1:12 gradient satisfactory. All respondents said ramps with more than 1:12 gradient would be too much for them. Since they all have special ramps constructed to give access to their homes, therefore, they were assumed to be capable of making this kind of judgement on the question of gradient.

The ambulant respondents painted a more complex picture. The one respondent with leg amputation said she was afraid to use escalators, but the remaining respondents found them easy to manage and very useful. One respondent preferred to use escalator to lift since she does not have to stand waiting for the lifts. To most of ambulant disabled people, standing can be as hard as walking. In general, most respondents said they would not have a problem using escalators, but these respondents may have been atypical, and it is not suggested that escalators are suitable for the majority of disabled people, since escalators require quick exit movement at the landing, and the automated steps will not wait for them.

None of wheelchair users can cope with flight of steps. Other ambulant respondents said that although they could manage steps it was with great difficulty and they would only use stairs when it is absolutely necessary.

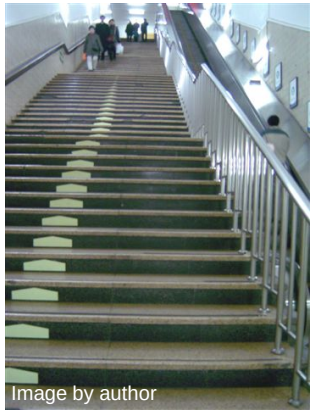


Image by author

Stairs	
Able-bodied	●
Wheelchair Users	✖
Ambulant Disabled	●


Image by author

Ramp	
Able-bodied	●
Wheelchair Users	●
Ambulant Disabled	●


Images available from:
www.filemagazine.com/.../ohara/index.html
[Accessed: June 2008]

Escalator	
Able-bodied	●
Wheelchair Users	✖
Ambulant Disabled	●


Image by author

Lift	
Able-bodied	●
Wheelchair Users	●
Ambulant Disabled	●

2.1.4 Walking Ability

Respondents were asked to make an estimate of how far they could comfortably move over level ground. Most people pointed out that this would depend on their own physical condition at the time, and on external environmental factors, such as the weather and ground surfaces. Estimates of average performance varied from one woman who found 50m is more than enough for her, while some others were able to walk couple of kilometres although very slowly. In average, it is agreed by all respondents that they were able to move at least 100m - 200 independently and without any discomfort at all.

2.2 Conclusion: Recommendations for Disabled People in Built Environment

2.2.1 Basic Principles

Following from a survey of various disabled people that inform the issues they have encountered in our urban environment, this dissertation also attempts to provide guidelines of designing a more user-friendly built environment for disabled people.

- **Identify the different needs**

Firstly, an important distinction has to be made between the needs of wheelchair users and ambulant disabled people. According to Goldsmith (1976), the wheelchair user has very special needs, whereas the requirements of ambulant disabled people are essentially similar to those of the able bodied population. The category of ambulant disabled people, including elderly people and many others who are not visibly disabled, such as people with prosthetics, is numerically more significant than the small minority of wheelchair users, and it is important that their needs should be carefully considered in every type of urban situation. Wheelchair users on the other hand present a more difficult problem as they are unable to cope with steps and steep gradient in changing levels, therefore, it is important to design an '**obstacle free**' space for wheelchair users. Although this may mean added expense, perhaps because of the inclusion of mechanical devices such as lifts, but it will also contribute to the greater convenience of able-bodied people.

- **Concentrated and Co-ordinated**

It is not suggested that it is possible to make the whole urban environment accessible to disabled people; it would be difficult for instance to arrange for every building to be within 200m of lift access or special parking. Instead, it is suggested that special provisions for disabled people should be concentrated and co-ordinated. For example, reserved parking should link with passenger lifts with easy reach for disabled people.

Convenience for disabled people can be achieved by the careful planning of locations for lifts and covered walkways. Special requirements of disabled people must always be considered and would require for example, that the lift must be large enough to take a wheelchair, and the ground surface on the walkways must be non-slip.

- **Visibility and Accessibility**

It is essential that the access routes to the facility and the facility itself should be clearly signposted as suitable for disabled people. Unless this is done, the facilities may be quite un-noticed, and disabled people may waste time and energy attempting to find their own ways.

It is apparent from the results gathered from the surveys and interviews with people with disabilities that the physical layout and locality conditions such as traffic, play a large part in determining the willingness of disabled people to go to the facility. It may be wasteful to make extensive provision for disabled people in a very congested area, for example, the city centre, with its constant traffic jams and lack of parking spaces; it will play a negative effect and decrease the willingness of disabled people to go out and visit the place.

- **Participation**

As the general public become more involved in the planning process, input and feed back from disabled people themselves should be emphasized as their opinions will definitely contribute to a positive outcome of the final design.

2.2.2 Parking Spaces

In the case of open areas, special parking spaces for disabled people will need to be adjacent to their destination as close as possible, and preferably connected by a covered and non-slip surface pathway to provide protection from the weather. In addition, for the benefit of disabled people, intermediate 'resting points' should also be provided along the route from parking area to destination.

There is however an administrative problem in ensuring adequate supervision of reserved parking spaces for disabled people. Therefore, by locating these reserved parking spaces as close as possible to the main entrances of the building, will mean that these parking spaces would have higher supervision by people walking in and out of the building, and therefore, it would prevent them being occupied by able-bodied drivers.

Where there is very high traffic volume, the hazard to able-bodied people walking in these areas is considerable, but it is even greater for disabled people. It is now becoming common practice to separate pedestrians from vehicles. Although a separate pedestrian route often involved a longer walk, it eliminates the danger from traffic, especially for disabled people.

The supervision of reserved parking can be achieved by clear signposting and located along main routes for a higher level of surveillance.

Images available from:
www.basingstoke.gov.uk/.../0/disabledsign.jpg
[accessed: June 2008]

2.2.3 Pedestrian Routes

- **Road Crossing**

Disabled people are at a disadvantage when crossing roads because they move very slowly. Wheelchair users in particular are vulnerable to traffic because they are at a low level and a driver's vision of them may be obstructed by other vehicles in front of them. In addition, they also have the difficulty of manoeuvring their wheelchair over high pavement kerbs.

According to Goldsmith (1976), kerbs should not be more than 100mm high. Where possible, road crossings on pedestrian routes should be avoided, where this is not feasible, ramped kerbs should be used. And for the safety of people walking along the pavement there should be at least 900mm of level pavement behind the ramped kerbs.

- **Pedestrian Distance**

Wheelchair users, where if some of them are pushed by other people when they make trips outside the home, would normally be expected to accept the pedestrian distances designed for the able bodied people provided that the ground is level. However, the problem of distance is much more complex for ambulant disabled people. It is difficult to lay down standards for pedestrian distances acceptable to the ambulant disabled people as the inability to cover distance on foot varies from person to person. Many are able to walk as far as able bodied persons but take longer and others are barely able to walk at all. The comments from the respondents of the survey with disabled people have led to the suggestion that 100m would be an acceptable maximum. However, this figure should not be take as an inflexible standard.

Where longer distances are unavoidable, disabled people may be helped by resting places positioned at maximum of 50m intervals and very often the environmental conditions along the route are more important than the actual distances involved.

2.2.4 Ground Surfaces

As agreed by all respondents, the ground surfaces should be both smooth and yet non-slip. This is vitally important to both wheelchair users and ambulant disabled people; a wheelchair bumps up and down unpleasantly on rough surfaces and can skid on wet surfaces. Ambulant disabled people are equally vulnerable; some have great difficulty in maintaining balance, and can be tripped over by slight irregularities in the ground surface.

Images available from: www.ncaonline.org/.../PortaFloor_0.jpg [Accessed: June 2008]

Porta Floor ™
Flooring surface which can be used to provide a firm, dry support base for a wide range of activities on a variety of ground surfaces. Little or no ground preparation is required and the rugged, non-slip surface incorporates drainage and ventilation slots.

2.2.5 Protection from Weather

Exposure to cold and wet is particularly dangerous to disabled people. Wet pavements, if constructed with slippery material, such as smooth stone and concrete, are unsafe for ambulant disabled people who may have decreased sensitivity in their feet. Exposure to wind causes discomfort and sometime danger to disabled people; from the survey, those who are ambulant especially mentioned their fear of moving across large open space during windy weather.

Protection from these elements will then need to be provided wherever possible; this is especially important over ramps, steps and high level walkways where wet surfaces can be dangerous.

Images available from: bp3.blogger.com/.../s640/IMG_2520_.JPG [Accessed: June 2008]

Rain makes ground surfaces dangerous and slippery, and unmanageable by disabled people whose sense of balance is often inadequate: crutches slip and wheelchair skid in these conditions. Screen of natural plant can provide protection from wind and aesthetic at the same time.

Images available from:
www.cache.viewimages.com/xc/7790
9858.jpg?v=1&c=Vi...jpeg
[Accessed: June 2008]

Images available from:
http://farm1.static.flickr.com/184/47
3701416_46f01566a2.jpg
[Accessed: June 2008]

2.2.6 Crowding

An uncrowded route is one of the environmental factors which respondents frequently mentioned as being desirable. It is recommended that pedestrian pathways should be wide enough to allow for this factor.

2.2.7 Signposting

Clear directional signs must be provided. They are essential for disabled people who cannot afford to make a mistake in finding their way. It is particularly important to signpost facilities such as lifts and reserved parking clearly, and to give advanced warning of changes in level.

2.2.8 Resting Places

Ambulant disabled people would be grateful for rest areas at strategic points on their routes to destination and for seats in parks and gardens.

In the course of study it has been observed that designers are reluctant to place seat in certain areas of public circulation for the fear of attracting vagrants and as a result, crime. It would be unfortunate for disabled people if this practice continue. What is needed is a more strategic planning by designing a public space in a way that would increase the level of passive surveillance to deal with issues of crime and not by sacrifice disabled peoples' needs.

2.2.9 Street Furniture

Good lighting will need to be provided on all pathways. This is very important for people who are uncertain of their steps. Where there are pavement posts on the pavements, they should always be adequate space in between to allow access for wheelchair users.

Obstacles such as lamp post should never be placed in the centre of pavement so that there is sufficient space to allow wheelchair to pass.

2.2.10 Vertical Circulation

- **Ramps and Steps**

New multi-storey developments often have ramps rising through full storey height in one unbroken stretch. This type of ramp even with a gradient of 1: 12 is not acceptable to either self propelled wheelchair users or ambulant disabled people, many of the respondents find slope in these kinds of ramps were too long and they would like to have intermediate landing places for resting.

- **Lift and Escalators**

It has been found that disabled people can be as tired of moving when they have to stand waiting for a lift, and it is suggested that this situation can be mitigated by the provision of reserved sitting area adjacent to lifts.

Very few wheelchair users are able to use an escalator, although it is not recommended, but according to Goldsmith (1976), that it is technically possible to take a wheelchair up on an escalator which has a step width of more than 760mm. However, there are other ambulant respondents who find escalators safe and very helpful. These differences do not appear to relate to types of disability but more psychological factors.

2.2.11 Special Provisions for Disabled People in Public Places

- **Fire Escapes**

The primary method of escape for the general public in case of fire is always by mean of staircase. Lifts are not considered as a suitable method of escape unless they are operated on a separate electrical circuit. Since such lifts are not always provided, in this case people with disabilities will need to Be able to circulate horizontally to areas of comparative safety and wait for rescue. Therefore, I recommend that if possible, areas which will be mainly used by disabled people should be placed as low level as possible close to ground level and open ground.

- **Entrances**

Goldsmith (1976) also recommends that at least one entrance door, served by an accessible approach, should be not less than 835mm wide and should give a clear opening width of not less than 785mm. Raised thresholds should be avoided but where essential they should not be raised more than 20mm above the level of the floor. Revolving doors are not suitable for use by disabled people. Automatic doors however are very helpful to all disabled people.

- **Internal Circulation**

To allow the circulation of wheelchairs, Goldsmith (1976) recommended that corridors and passageways should not be less than 1220mm wide, and doors should give a clear opening width of not less than 785mm.

Sport, Recreation and Public Open Spaces in Urban Environment

Why do we need public open space in the cities?

Or, more specifically, do we really need recreational park spaces in the cities

3.0

3.0 The Purpose of Public Open Spaces in Urban Environment

As the proposal of this thesis is a sport and recreational facility for public use, therefore, a public open space will present a good choice of site as they can be easily linked together.

Park spaces have always been associated with sport and recreational activities. The park generally offers a wide range of cultural and recreational diversions; it draws publics, comprising all ages and races, from different economic backgrounds. Everyone have the right to use a park as a place to socialize including people with disabilities.

In creating these parks, the principal aim has been to provide an escape from the pressures of the city and provide a platform for human exchange; to screen out the surrounding buildings by means of planting; and at its best, to re-create nature.

However, there are conflicts between this romantic concept and the needs of the growing city. On the one side, there were demands by citizens pressing for the sporting and recreational facilities in parks, and on other side the city needs these open lands for growing.

As the city slowly encroached on the borders of the park, the nature of the park concept has been attacked. The scale of the space has been intruded by the commercial blocks and apartment buildings. Or alternatively, in many instances, these park spaces having been turned into a patchwork of special uses, such as parking spaces, and as a result of neglect, these park spaces have inevitably begun to decay, polluted and vandalised.

The current state indicates that the removing of park lands for city growing seems to have the upper hand in this battle. Most of the developers (and municipalities) use the issue of crime in parks to enforce themselves with a strong reason to remove park spaces in our cities.

My concern is that if this continues, there will be a real danger that parks may in time, be modified and adapted to such an extent that their original function may be forgotten or worst, become extinct from our city. We will no longer have a breathing space within the city and no longer have one of the oldest forms of place for human exchange, interaction and socialising. Therefore, in this chapter of the dissertation, I propose to add one more voice to the multitude of others already searching for ways and means to improve our urban environment. My intension has been to contribute towards the discourse on of why we need public open spaces in cities – An element which plays a significant role in the wellbeing of those living in and experiencing our contemporary city.

Central Park, New York. [online] available from: www.virtourist.com/.../pictures/new-york-33.jpg [accessed: October 2007 [Accessed: June 2008]

The principal aim has been to provide an escape from the pressures of the city and provides a medium for human exchanges; to screen out the surrounding buildings by means of planting; at its best, to re-create nature.

Issue:

Why people are ignoring the parks in Johannesburg?

One major reason for the large scale abandonment of public park spaces in Johannesburg is the fear of crime. In the contemporary era, public spaces are increasingly associated with notions of fear and vulnerability. Consequently, the ideal qualities that characterize these spaces, such as sociability and accessibility, have been denied.

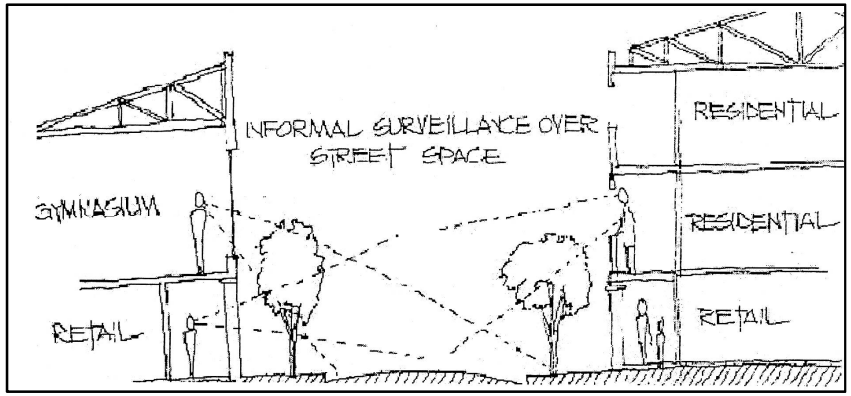
As a result, many park spaces in Johannesburg have become waste lands and a refuge for vagrants. Public spaces have been emptied of much of their vitality, it has become increasingly impersonal and drained of the social meaning which was previously attached to it, and lost its relevance to community life.

In addition, the lack of managements for the parks results in lack of interest for people to use it. Therefore, the above mentioned issues actually encourages the private developers to remove park spaces in our cities.

3.1 Creating a Safer Urban Public Space

In order to create a safer public space, more positive strategies for a safer public environment such as greater activities and more effective management in needed. Public spaces need to be developed, for more accessibility to different types of users. For example, inaccessible to certain group of population, are all primary issues that need to be take into consideration. The concept of "public", will need to be re-interpreted in a wider perspective. As Altman and Zube *(1989)* suggested, what is needed is that public spaces is now becoming public places. These are spaces that provides value to the community at large.

In terms of the need to create a safe public environment by means of the total management of public space, Jacob and Appleyard *(1996)* recommended an integration of uses and activities – living,, recreational as well as public. They envision, "… the urban landscape as a fabric, … a salt and pepper fabric of many colours, each colour for a separate use or a combination" (Jacobs and Appleyard 1996: 173). Although it is not suggesting that every part of the city should have a full mix of uses, but a mixture of uses is believed to bring life to an area. In the figure below, passive surveillance is provided in this pedestrian environment, thereby decreasing the possibility of criminal activities occurring.



Passive Surveillance through variety of mixed-uses
Image available from: Napier (1998)

3.2 Approaches to Safety in Public Space: "Defensible Space" Design Theory

Jane Jacobs in *'The Death and Life of Great American Cities' (1961)* had emphasized that a feeling of safety is a fundamental requirement for a successful and vibrant urban environment. "…the bed rock of a successful city district is that a person must feel personally safe and secure on the street among all strangers…" (Jacobs 1961: 40). The three principal qualities that enhance safety in our urban environment are identified by Jacobs (1961) as: **territoriality**, **surveillance and social controls**, and the **presence of people**.

The first quality is the need to clearly identify private and public space. Secondly, Jacobs maintains that 'eyes on the space', or surveillance, is essential and is the result of both community spirit and the design and layout of buildings around public spaces. "…the buildings need to be equipped to handle strangers and to ensure the safety of both residents and strangers… The first thing to understand is that public peace is kept primarily by an intricate, almost unconscious, network of voluntary controls and standards amongst the people themselves… No amount of police can enforce civilization where, normal, casual enforcement of it has broken down…"(Jacobs 1961: 41). The final quality, emphasizes the need for public spaces to be 'busy' or have users continuously which enhance numerous potential witnesses. Therefore, the concept of 'visibility through presence' is seen as one crucial element in crime prevention.

A parking lot benefits from the surveillance provided by windows in an adjacent building

In addition, Jacob's theories were enhanced in 1972 with the publication of *'Defensible Space: People and Design in the Violent City'* by Oscar Newman. Newman provides a more formal framework for Jacobs' idea in his construction of Defensible Space. At least two distinctions can be made. Oc and Tiesdel *(1997)* stated that firstly, Jacobs' work can be regarded as more 'planning' in nature while Newman emphasize the architectural aspects in designing safer space. Secondly, in contrast to Jacobs' arguments that were based upon observation, Newman claimed
that his theory had been substantiated by research that involved identifying statistical figures between design features and the incidence of crime.

Newman's concern is that the lack of commonality and civility between neighbours will increase citizen's vulnerability to victimisation. Defensible Space is defined as, "…a surrogate term for the range of mechanisms – real and symbolic barriers, strongly defined areas of influence, and improved opportunities for surveillance – that combined to bring an environment under the control of its residents" (Newman 1972: 3). Following a survey and research of public housing in New York, Newman identified citizens and communities as the biggest untapped resource for crime prevention. Defensible Space design attempts to empower people to control their immediate environment and eliminate and reduce crimes by modifying the structure and arrangement of buildings. Therefore, according to this theory, by catalysing the natural impulse of residents and extending their area of responsibility, it is believed that control will not have to be surrendered to formal authority such as police, management or security guards.

Having identified the problem, Newman (1972: 50) suggested four components of Defensible Space which act individually or in combination to contribute to the creation of safe environments:

- Territoriality
- Surveillance
- Image
- Environment

Territoriality: the capacity of physical environment to create a sense of neighbourhood or perceived 'zones of territorial influence'. The territoriality in Defensible Space operates by sub-dividing large portion of public spaces and assigning them to individuals and small groups to use and control as private areas. Furthermore, the need to provide clear differentiation between public and private spaces was emphasized. A language of symbols – both real and symbolic, would facilitate this. Examples of real barriers include: high walls and fence, and locked gates and door, which required a meaning of indicating one's belonging prior to being granted access to a certain spaces. Symbolic barriers are identified as light standards, change in the texture of walking surface, and planting.

Surveillance: the capacity of physical design to enable residents to casually and continually survey a public area. One of the primary benefits of 'natural' surveillance is that by observing the public space in one's residential environment the fear of crime can be reduced (Newman 1972). Orienting buildings towards the public space(s) will encourage opportunities for supervision of the space in question.

Image: the relationship between building form and design influence perception and stigma that may be attached to a building or group of buildings. Visible evidence of decay such as: litter, broken windows, and deteriorated building exteriors, will contribute to a downward spiral signalled by residents feeling vulnerable and retreating into their homes. Furthermore, they become less willing to intervene in maintaining public order or to address the physical signs of deterioration. As a result, offenders from outside the area will be attracted.

Environment: the effect of locating an area adjacent to safe and unsafe areas. With regards to environment, Newman (1972) argues in favour of mixed-uses and the integration of shopping, working and institutional areas with housing. Commercial areas adjacent to public space can encourage greater intensity of use in these spaces. Newman's research also indicated that neighbourhood employees have a greater stake in ensuring safety than the passer-by.

Issues with Defensible Space Theory

There are however, critics made towards theories and projects developed by Newman. Oc and Tiesdel *(1997)* stated probably the most common criticism is that Newman prescribed an over-simplified and fix-all solution to a range of design problems and crimes prevention strategies. Commentators make notes that Newman's research methodology and techniques are crude, and he fails to critically evaluate the possibilities that the four elements of Defensible Space might contain contradictions within them.

The element of territoriality is criticised by many authors as a result of these conditions. Stollard *(1991)* refers to the concept of homogeneous neighbourhood in relation to the design principle of territoriality, as "…an ignorant view of human nature which has largely been discredited by anthropological research' (Stollard 1991: 25). Newman also tends to assume that crimes will be committed by outsiders and not by residents within the community (Oc and Tiesdel 1997).

Newman's works have resulted in a debated competition between design and social determinist. Oc and Tiesdel (1997) suggest that Newman dismissed social factors prematurely. Jeffery *(1977)* believes that Newman failed to consider the implications of crime prevention strategies implemented in one area would ultimately result in crime displacement.

According to Poyner *(1983),* Defensible Space theory is attractive as it provides an alternative to physical security measures to create a more humane and secure living environment. However, he cautions that, (if) Defensible Space is a useful and meaningful concept, it must be treated with precision and care, and research in detail. Furthermore, it needs to be acknowledged that lessons learnt in one particular area are not necessary relevant elsewhere.

3.3 Modern Approach to Security: Crime Prevention through Environmental Design

As an improvement of Defensible Space, Crime Prevention through Environmental Design theory by Jeffery, R. (1977), is regarded as one of the well developed approaches to crime prevention (Oc and Tiesdell 1997). Although Crime Prevention through Environmental Design as referred to CPTED and Newman's Defensible Space have several elements in common, the CPTED approach extends beyond the residential context to include, for example, commercial and public areas. The main purpose of this approach is outlined by Napier *(1998),* "... as the implementation of measures to reduce the cause of, and the opportunities for, criminal events, and to address the fear of crime through the application of sound design and management principles to built environment" (Napier 1998: 40).

The CPTED can be preventive – where principles are incorporated in the initial design stages, or interventionist where changes are made following the identification of problems. The preventive approach is suggested as the most cost effective.

The strategies of the Crime Prevention Through Environmental Design approach do overlap somewhat with the four elements of Defensible Space. However, an attempt is made to broaden the strategies that would be used in design by Newman. These fundamental strategies include (Napier 1998; Oc and Tiesdell 1997; Poyner 1983):

Surveillance and Visibility: this approach emphasizes the need to exploit 'natural' forms of surveillance that are derived from the routine use and enjoyment of a space. Formal surveillance provided by the police or security guards is deemed appropriate and cost-effective only where there are concentrations of crime. Good visibility is one key factor that will bring improved surveillance. Visibility is defined as the degree to which an environment is made visible and is facilitated by appropriately located lighting and uninterrupted sight lines.

Territorial and Motivation Reinforcement: territorial reinforcement refers to the relationship between physical design and the creation or extension of feelings of proprietorship beyond the private realm so residents can assume ownership of their neighbourhoods. Maintain that motivational reinforcement is equally important and involves encouraging people to participate in crime prevention. This will be facilitated by better maintenance of public spaces, community involvement in setting police priorities, and co-operation between public and private authorities.

Movement Control: specific tactics of movement control include Newman's real and symbolic barriers such as allowing keyed access and controlled access in a neighbourhoods semi-private or private areas.

Target Hardening: this is the physical strengthening of, for example, boundary walls and fences to reduce the vulnerability of potential targets. It is important to remember that target hardening could contradict any of the abovementioned principles or strategies. Very high walls that obstruct the ability of residents to survey adjacent public spaces could violate the principle of visibility and uninterrupted sight lines.

However, Oc and Tiesdell (1997) indicated that there are also critic is made towards Crime Prevention Through Environmental Design that this approach is highly conservatism and treat all strangers as potential offenders. Furthermore, that this approach focus primary on property crime and fails to suggest measures to address crime that may occur in urban public spaces. With regard to public urban spaces, an objection is that territoriality will result in the infringement of civil rights if they were to be cut-up and privatised.

Oc and Tiesdell (1997) also suggest that safe public open space can be created by means of positive management and requiring the residents to take responsibility for these spaces. In seeking to apply these principles in

practice it is useful to point out that using the same methods cannot prevent all types of crime. Ideally, particular design responses should be customised to the problems, and social and physical context of the area under investigation.

3.4 Conclusion

Following from a theoretical discussion of various concepts and principles that inform the design of safe urban public spaces, this dissertation also attempts to provide practical guidelines to assess these spaces for danger of crime. These guidelines for designing crime prevention could be utilised for designing and planning future urban public space in general. The guidelines are more performance related rather than prescriptive and represent a consolidation and adaptation of the common principles to design crime prevention that are discussed earlier.

- **Planning**

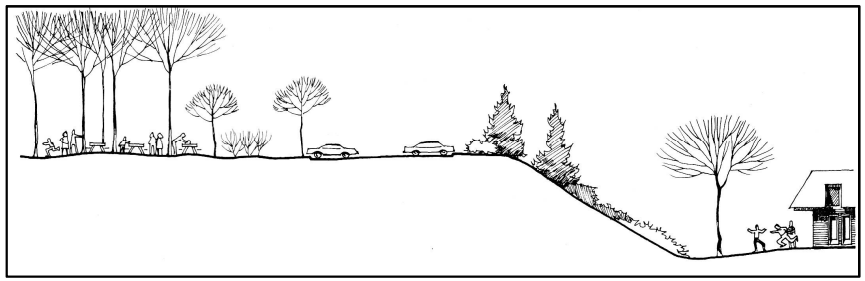
The location of urban recreational open space will have an important bearing upon its use and the proneness to crime. Jacobs (1961) emphasized the condition not to situate parks in isolated locations where people never pass and has to rely on impulse decisions in order to visit. Another important issue is the multi-mixed-use context within which the recreational open space situated. Jacobs (1961) argued that, in general, a park would be negatively affected by the functional monotony of its programs, for example, a vast but empty open green land. Consequently, variety and mixed-use programs are suggested as the optimal land-use context for recreational open space. A diversity of compatible mixed-use means that people will frequently visit the area with differing schedules at varying times of the day. As such, natural surveillance over urban recreational space will be enhanced.

At this point in the discussion it is necessary to emphasize the importance of orientating the various programs within the recreational open space. The creation of a layout that provides more opportunities for people to view the space will further enhance the idea of natural and passive surveillance of the space.

With regards to the most appropriate shape of recreational open space to facilitate safety, Newman (1971) outlined the advantages of linear parks. Newman (1971) suggested that the dimensions of urban parks should facilitate natural surveillance from adjacent streets, houses and buildings. Linear parks are preferred to square ones as an elongated perimeter facilitates patrolling and can be easily overseen from both sides thereby enhancing the ‘defensibility’ due to increased surveillance.

- **Programmes**

Ideally, recreational space should provide a wide range of recreational opportunities to meet the need for a variety of user groups. The design of the layout and facilities in recreational spaces to fulfil users’ needs is done with the consideration of several general elements or criteria. Cooper Marcus and Francis *(1990)* focus on: landscaping, furniture, active recreational facilities and equipment, informal recreation (picnicking and lawn games), maintenance, accessibility and legibility as important criteria in the detailed design of recreational open space.



An “ideal” use relationship
Image available from: Molnar (1986: 20)

Flea market is a good example of an activity generator, it attracts more people and add 'eyes' to the public space.

Lower tree branches were trimmed off to provide a clear line of sight into the space.

- **Activity Generator**

Before implementing any activities into a public space, one should consider:

Can such activities be programmed to increase the use of public space?
Are the uses and users complementary?
Does the planning and design of public open spaces provide the opportunity for various activities to encourage people to use these spaces?

The perception of a space as safe is related to the vitality and active nature of the space. Populated spaces often attract more people and add 'eyes' to the public space. Active space can be encouraged through activity such as increasing recreational facilities to a park. It is important to note that activity generators cannot happen in isolation. They need to be reinforced by, for example, placing a vendor on an 'active edge' of a space, or along pedestrian paths, and children's play lot could be located next to a food stand.

- **Sight lines and Surveillance**

Are most of the open spaces visible from adjacent street?
Are there other forms of establishments overlooking these spaces?
Do plant materials obstruct the sight lines looking into the spaces?
Are site furniture's located in such a manner that surveillance is maximised?

There are several elements within a recreational open space that can be designed or located in such a way as to contribute to clear and effective sight lines and enhance natural surveillance. Napier (1998) stated that trees, bushes and other landscape features can obstruct sight lines and provide cover for offenders and undesirable behaviours. Tree species should be

Clinton Cove Park, New York
Available from:
www.clintoncove.com/.../clinton_cove_park_night.jpg
[accessed: March 2008]

Lightings enabling people to see and to be seen, the impact of darkness will be reduced and will encourage people to venture and resulting in more vibrant public spaces.

selected so that the branches grows out at least 1,5m above the ground. Bushes should be clustered in such a way that they prevent obstruction to visibility or provide hiding spaces.

The type and location of site furniture could also play a role in enhancing surveillance. Cooper Marcus and Francis (1990) suggest that multi-purpose tables and bennches should be provided that caters for different users and if space allows, braai areas are a welcome feature. Benches should also be placed in close to play ground so that children can be watched. Catering for different users and activities in the recreational open space could increase the space's attraction and therefore encourage greater use and natural surveillance.

Lighting

Is lighting in urban recreational open spaces adequate to see another person from distance?
Is lighting appropriately placed in locations that are suitable for night time use?
Are spaces well lit from lightings?
Are there programmed night time activities that encourage park use during evening hours?

Lighting is used to encourage the utilisation of recreational open space during evening hours. According to Napier (1998), good lighting is probably the most important element for designing safer environment. Good lighting increases the ability of citizens and police to identify and detect criminal activities. Lighting enabling people to see and to be seen, the impact of darkness will be reduced and will encourage people to venture and resulting in more vibrant public spaces.

A good measure of lighting is when you are able to identify a face 15m away (Oc and Tiesdell 1997), this distance provides a person with sufficient time to react to or avoid trouble.

Case studies indicate that close circuit television (CCTV) cameras have resulted in reduction of crime (Oc and Tiesdell 1997). However, this could also contribute to greater levels of fear by creating the impression that an area is unsafe (Napier 1998). CCTV will only operate effectively if there is the possibility that someone will intervene to stop criminal behaviours. Probably the most common concern regarding to CCTV is that it will result in the infringement of civil rights.

- **Maintenance**

Are there signs of physical in-civility? e.g. litter.
Are the open spaces well-kept?

The maintenance of recreational open spaces is important so as to promote a positive image. The relevant authority should respond to maintenance problems to prevent further damage and neglect. A clean open space with functioning infrastructure encourages people to have a sense of pride in, and responsibility for their environment.

In addition, according to the report published by Johannesburg land use department, titled '*Johannesburg Metropolitan Parks and Open Space Report' (C. Allen and H. Meekel, 1980)*, the open space standards required by various areas were listed:

a) Cape	4.0 ha/1000 population
b) Natal	2.8 ha/1000 (coastal region)
	5.0 ha/1000 (Pietermaritzburg)
c) Transvaal	3.83 ha/1000 (Pretoria)
	2.83 ha/1000 (Johannesburg)

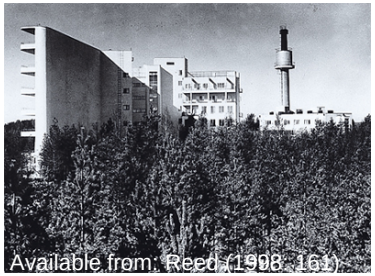
This includes the 1.37 ha/1000 for local parks provision and 1.46 ha/1000 for the provision of urban regional parks.

The report has stated the shortage of developed park space in Johannesburg has reached critical stage, and with regards to suggestion for mitigating this situation the report states: "However, very little can be done to alleviate the supply shortage owing to the extremely high land values and future provision will probably take the form of large residential or commercial developments" (Allen and Meekel: 1980).

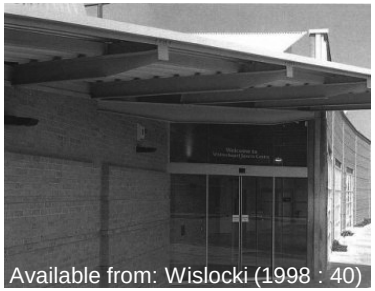
Therefore, it is my view that the application of those above mentioned standards: a), b) and c) are therefore of little use. Furthermore, as mentioned in the report, high land values will almost certainly ensure that the acquisition of more open space will not only be difficult but extremely expensive.

My conclusion is instead of searching for more open lands to create more new parks in order to satisfy the standards, we should rather improve the existing parks which are currently under-developed to their maximum potentials and retain their identities in our rapid growing cities.

Precedent Studies


Available from: Reed (1998 : 161)

4.1 Paimio Sanatorium,
Paimio, Finland, 1929 - 1933: Alvar Aalto


Available from: Wislocki (1998 : 40)

4.2 Whitechapel Sports Centre,
London, UK, 1998: Pollard Thomas & Edwards Architects (PTE Architects)


Available from: Pearson(2001: 109)

4.3 Spa Recreation Centre Bad Elster,
Bad Elster, Germany, 2000: Behnisch Partners


Available from:
http://dojjouubertpark.blogspot.com/
[accessed: March 2008]

4.4 Joubert Park,
Johannesburg, South Africa

4.0

.04-1

Precedent Study:

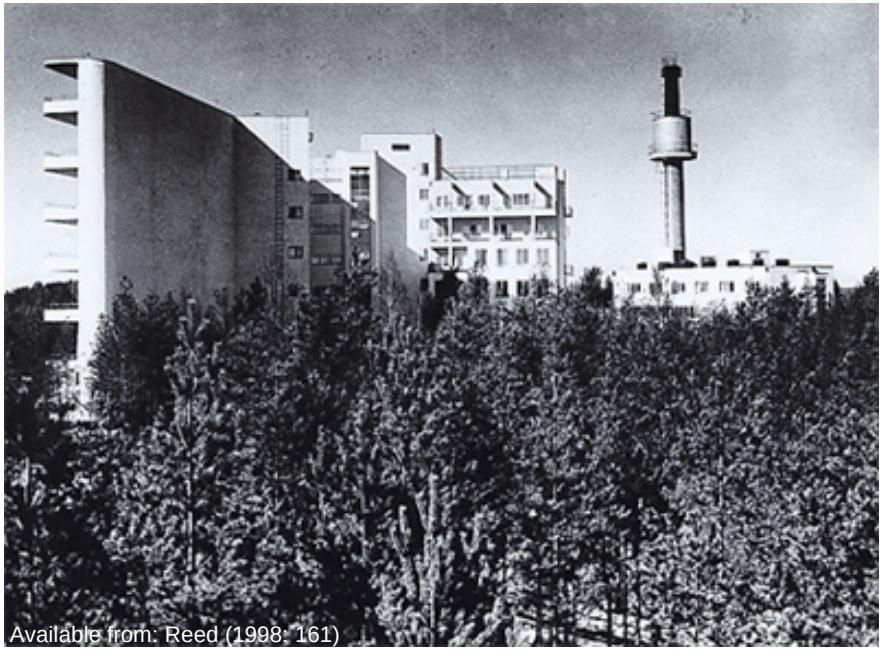
Paimio Sanatorium, Paimio, Finland | Alvar Aalto

Summary: A study of Alvar Aalto's' Paimio Tuberculosis Sanatorium to gain insight for the design for the sport and recreation centre.

Important to Note: The architect Alvar Aalto was selected because of the importance that he placed on:
the interaction between people and nature
the design for the individual needs

Aim: To understand the concept of designing for users with **special needs** and how that can manifest itself in architecture.

Main Concepts:
- building engage with the landscape
- functional zoning of use
- consideration in detailing for special users



Available from: Reed (1998: 161)

The sanatorium was placed in the middle of a forested environment, Aalto ensured that particular attention was given to the angles of vision onto the natural landscape.

Precedent Study #1//

Paimio Sanatorium, Paimio, Finland, 1929 - 1933: Alvar Aalto

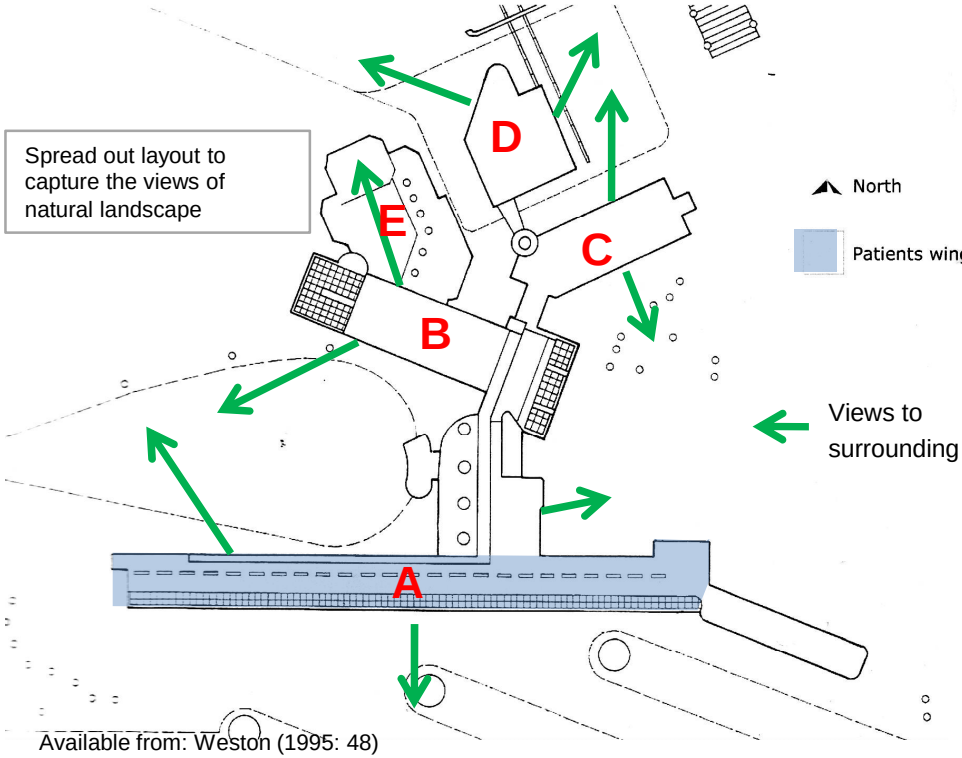
Location: Paimio, Finland
Date of Project: 1929 – 1933
Intention: To provide a building that would help to cure patients suffering from tuberculosis.
Concept: To make the building function like a “medical instrument”

Alvar Aalto’s Paimio Sanatorium will be studied as a case study for this dissertation. His Piamio Sanatorium building is particularly useful for this dissertation as it uses the concept of using the building to “heal” its user and the idea of it was designed for **special users** – an important issue that need to be dealt with in the design of the sport and recreation centre for able-bodied and disabled.

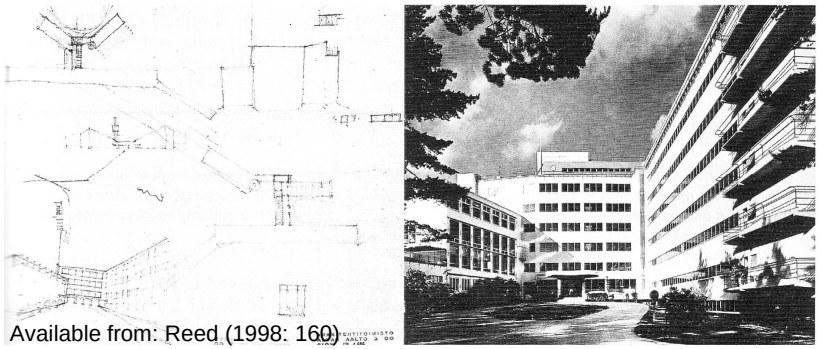
The architect Alvar Aalto was selected because of the importance that he places in architecture:

- The interaction between people and nature.
- The design for the individual needs.

Aalto (1998) stated that Aalto's starting point for the design of the sanatorium was to make the building itself a contributor to the healing process. He liked to call the building a "medical instrument". For instance, particular attention was paid to the design of the patient bedrooms: Aalto designed special non-splash basins, so that the patient would not disturb the other while washing. The patients spent many hours lying down, and thus Aalto placed the lamps in the room out of the patients’ line of vision and painted the ceiling a relaxing dark green so as to avoid glare. Each patient had their own specially designed cupboard, fixed to the wall and off the floor so as to aid in cleaning beneath it.

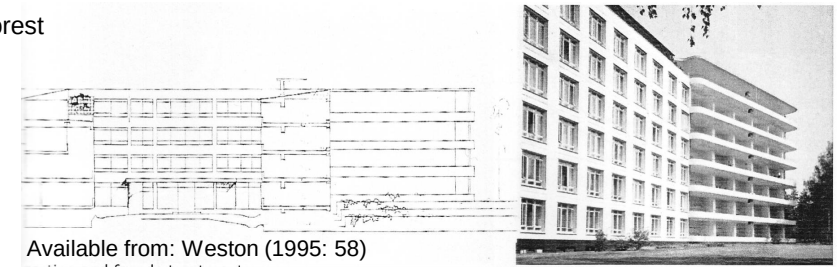


Available from: Weston (1995: 48)



Available from: Reed (1998: 160)

Design sketches and entrance view



Available from: Weston (1995: 58)

Section and facade treatments

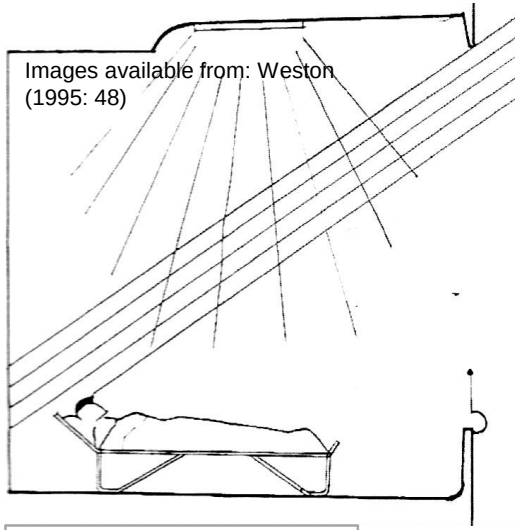
In the early years the only known "cure" for tuberculosis was complete rest in an environment with clean air and sunshine. Thus on each floor of the building, at the end of the patient bedroom wing, were sunning balconies, where weak patients could be pulled out in their beds. Healthier patients could go and lie on the sun deck on the very top floor of the building.

Programmes and Planning

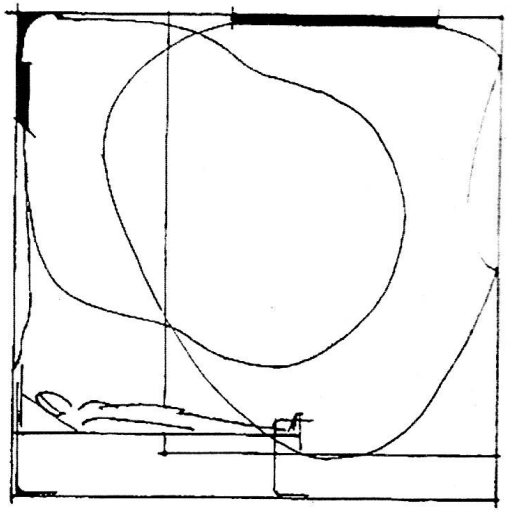
- Form follows Function -

According to Aalto (1998), the basic functions of the building have been resolved so that each wing of the building and the functions within it form a unit of its own. A-wing is the patients' wing with the sun balconies, the most important architectonic element, facing south. B-wing contains the common spaces: treatment rooms, dining hall, library and common rooms. C-wing contains the laundry, kitchens and staff accommodation. The single-storey D-wing contains the boiler room and heating plant. Circulation centres on the main entrance hall between A-wing and B-wing and the stairwell linked to it, which together give access to the other wings of the building.

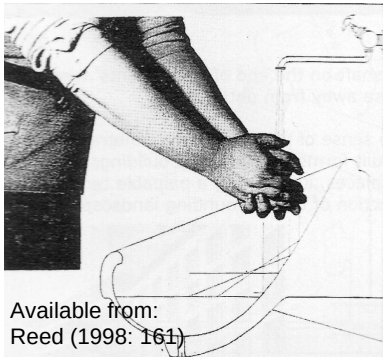
Although the Paimio Sanatorium building represents Functionalism of a stylistically pure kind, there is an unambiguous duality about it. On the one hand, you have tradition and influences from architectural trends at the time and on the other you have a creative innovativeness that is something quite new Aalto (1998). In Paimio, this duality can be seen in the composition, which is both symmetrical and asymmetrical; a symmetrical and intimate inner courtyard is formed in front of the main entrance, while at the same time, the building masses spread out asymmetrically as part of nature.



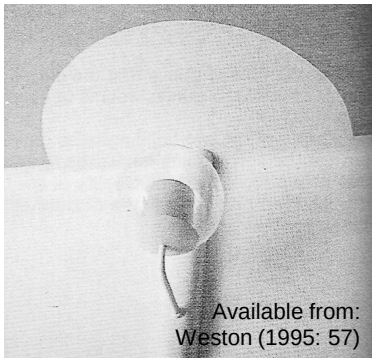
Images available from: Weston (1995: 48)



Design for Special Users:
- Natural Lighting
- Natural Ventilation



Available from:
Reed (1998: 161)



Available from:
Weston (1995: 57)

Design for Special Users:
- Quiet basin
- Indirect mechanical lighting

Aalto (1998) stated that the Functionalist aspect of the building - the typical emphasis on technology of the period - is represented by various things such as the glass-walled lift shaft and the abundance of details in metal, both in the elevations and in the interior. To Aalto, even in this, the principal work of his Modernist period, technology does not have any absolute intrinsic value, but forms one side of a very human dialogue.

The entrance foyer works as a transitional circulation space between the wings that serve different functions. The original interior furnishings of the foyer including the pigeonholes for patients' slippers, emphasised the feeling of homeliness created for the long-stay patients.

In the public spaces, the colour scheme of the Sanatorium is convergent with the neo-plastic art of the twenties and thirties: blue, yellow, grey and white. It creates a fresh and cheerful yet peaceful atmosphere. The staircase opens directly from the foyer forming a space that extends right through the building, into which daylight filters from both east and west.

The rooms in the patients' wing are arranged on the north side of the corridor. By sitting the rooms on one side only, Aalto was able to bring natural light into the corridor and give the patients the feeling that they were in control of the space. It was natural to use contemporary strip windows in the corridor facade. For the patients' rooms, Aalto studied the angle of the sunlight in conjunction with the heating system. Sun blinds were fixed outside the windows to cut down solar gain.

In contrast to the public areas, the colour scheme of the patients' rooms was more traditional and intimate - bluish and greenish greys. Aalto had his own ideas about the ceilings of the patients' rooms, for example. "The ceiling of the room should be the colour of the sky," and because the ceiling was painted in darker tones, the lighting had to be arranged so that the part of the ceiling which reflected the light had to be painted in lighter tones. The

washbasins had to run silently and the spittoon had to be hygienic and easy to clean. The pipe work was concealed in the walls, whereas prior to this pipes were usually surface-fixed.

The roof terrace on the patients' wing was used for treatment in summer and winter alike. Tuberculosis was treated with fresh air; sun beds that suitable for external use were needed.

CONCLUSION AND LESSON LEARNED

The design of the sport and recreation centre should consider the principles used by Alvar Aalto in the design of the Piamio Sanatorium as he intently considered the user above all else in his design.

Main concepts to be considered:

- How the buildings engaged with the landscape
- The functional zoning of the buildings
- The consideration in detailing for special users

The concept of outdoor space, with access to light, views and air are evident in the roof terrace as a public place, the court yard and communal spaces. The wards allowed patients to spend their time in the open air during day time. The balconies were lined with low railings and plant box barrier between the patient and the edge. These wards provide sufficient ventilation, sunlight and views over the extensive forest of the site.

All these provisions are aimed to help provide a suitable “healing” environment through architecture:

Light
The amount of light that reached each of the patients’ rooms was controlled depending on the season. The spread plan and thin slabs allowed light to penetrate the building.

Air
The concept of fresh air related very closely to the healing process, particularly in the case of tuberculosis. The intake of fresh air was incorporated into the design of the building through the balconies, windows and spread out plan.

View
Since the sanatorium was placed in the middle of a forested environment, Aalto ensured that particular attention was given to the angles of vision onto the landscape. Links with the surrounding land were enhanced by the steel-tube railing of the balconies as well as the garden terraces.


Available from: Aalto(1998: 19)

.04-2

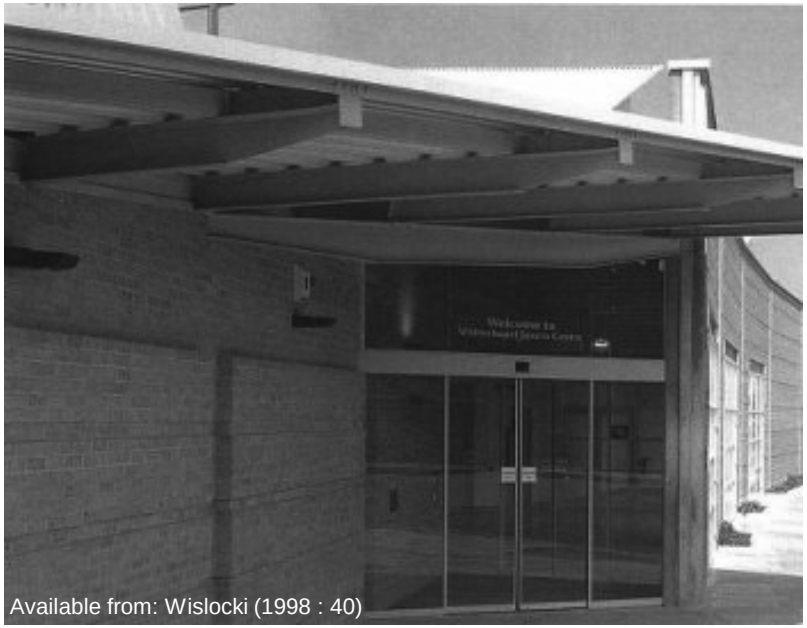
Precedent Study:

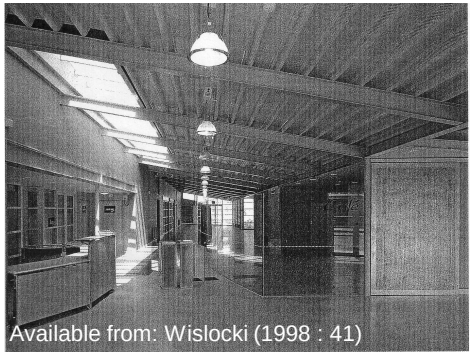
Whitechapel Sports Centre, London, UK | Pollard Thomas & Edwards Architects

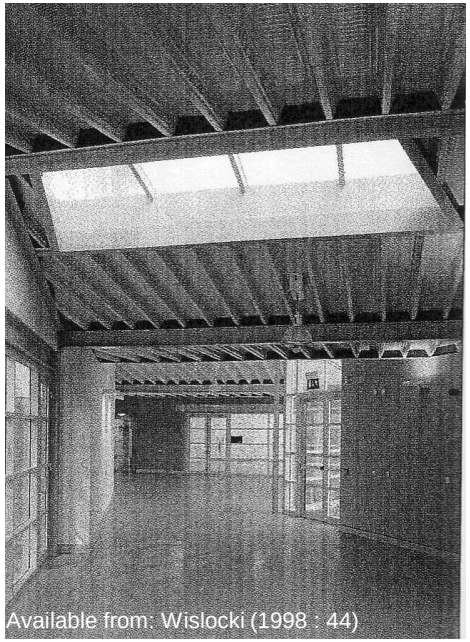
Summary: A study of a building that provides a venue for sports and recreation activities and encourages the "non-traditional sports users" of Bengali community to participate more neighbourhood events.

Aim: To understand the concept of designing for users with **special needs** and how that can manifest itself in architecture.

Important to Note: How the building response to the community, in which their special needs are accommodated discreetly and efficiently.


Available from: Wislocki (1998 : 40)


Available from: Wislocki (1998 : 41)


Available from: Wislocki (1998 : 44)

(Left) The roof projects beyond the main façade to mark the entrance to the building.
(Top) Internal "street" creating a welcoming environment that contains a the café.
(Right) The main circulation area with views into the multi-use sport hall on the left and the training hall straight ahead.

Precedent Study #2//

Whitechapel Sports Centre, London, UK, 1998: Pollard Thomas & Edwards Architects (PTE Architects)

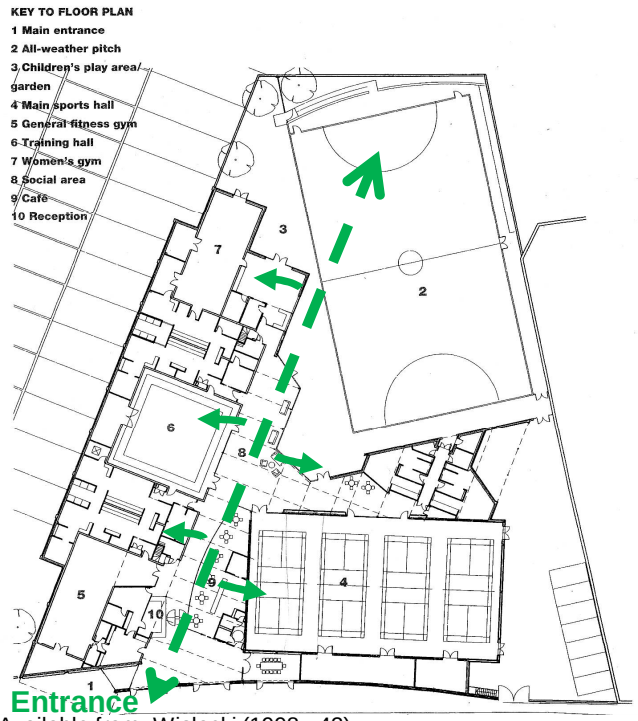
Location: Whitechapel, London, UK
Date of Project: 1998 – 1999
Intention: To provide a venue for sports and recreation activities and encourage the "non-traditional sports users" Bengali community to participate in more neighbourhood events.
Concept: A building that answering community needs, in which their special needs are accommodated discreetly and efficiently.

Whitechapel, in the heart of London's East End, is an area dominated by ethnic minorities (once Jewish, now Bengali). It is a community of first and second generation immigrants, within which cultural and economic factors have mitigated against participation in sport and leisure activities. The architects therefore prioritise accessibility and the encouragement of participation by "non-traditional sports users" in their initial brief.

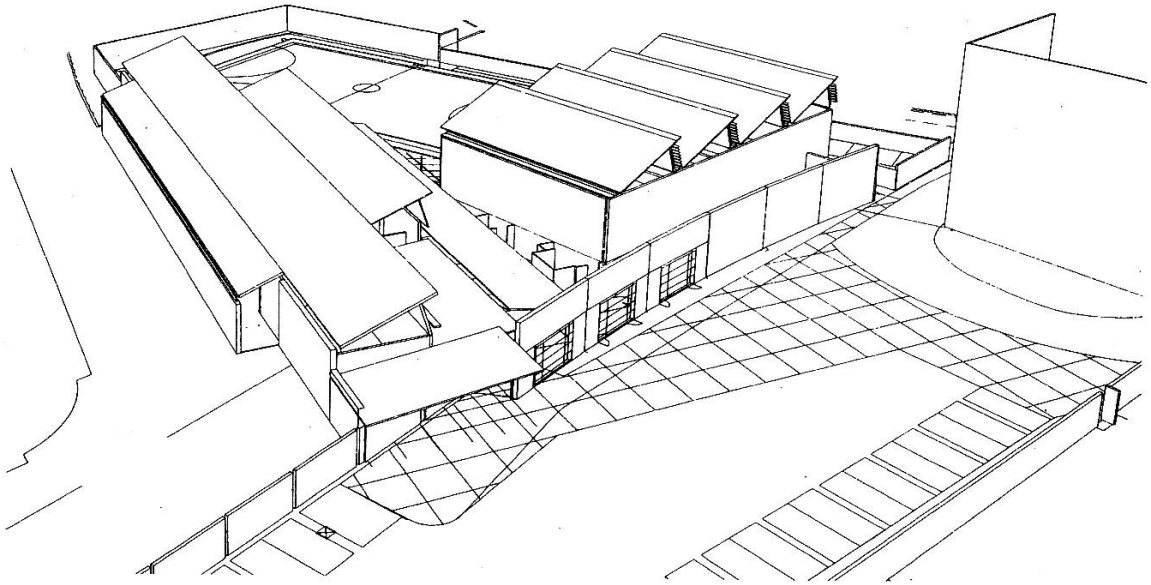
PTE's response was to work interactively with community groups and interested individuals, ensuring that everyone would perceive the finished building as a welcoming environment, in which their special needs are accommodated discreetly and efficiently.

The architect's consultation exercise identified football, badminton and various forms of "keep fit" activities as the community's major interests. PTE worked with a steering group representing the various community interests, evolving a menu of facilities that accommodated all kinds of need and interests of the community.

Within a triangle slotted between two railway lines and non-descript urban backlands, all the centre's accommodation is at ground level with a central circulation spine giving direct access to each of the major sporting facilities.



Available from: Wislocki (1998 : 43)



Available from: Wislocki (1998 : 44)

(Left) Floor plan of the building. Showing how spaces revolve around the central movement axis.
(Top) 3D model of Whitechapel Sports Centre, looking towards the front entrance.

While PTE's design lacks the seductive geometries and graphic elegance, the rhythmically ordered roofscape of light-weight monopitches, partially fragmented above a masonry base, place the building within the genre of socially progressive European architecture, simultaneously referring to the industrial heritage of its context.

Bengali women, a key target of "non-traditional sports users", require greater privacy than their European counterpart, avoiding communal changing and insisting on total segregation from the opposite sex when engaged in physical exercise. PTE included a women's fitness gym, entered exclusively through the female change area.

By contrast, the martial arts training hall is visually open to the circulation spine, its curtain walling contained within an internal opening, spanned by an exposed steel L-section.

A more dramatic example of structural expression is the "kite" roof. The roof incorporates a warren truss of welded tubular steel in both constituent planes of the saw-tooth roof profile, braced by a spider's web of tension rods, with a bolted connection at the centre of each structural bay. The quality of light admitted through the east facing roof-light is never distracting, being filtered through external louvers, and can provide adequate natural lighting.

The building's principal elevation (street facing) consists of a largely curving plane of brickwork, 5m high, but visually animated by the play of shadows during different times of the day.

The canopied entrance, welcomes not only participants in sport activities, but also the wider public, who are encouraged to use the centre's café.

.04-3

Precedent Study:

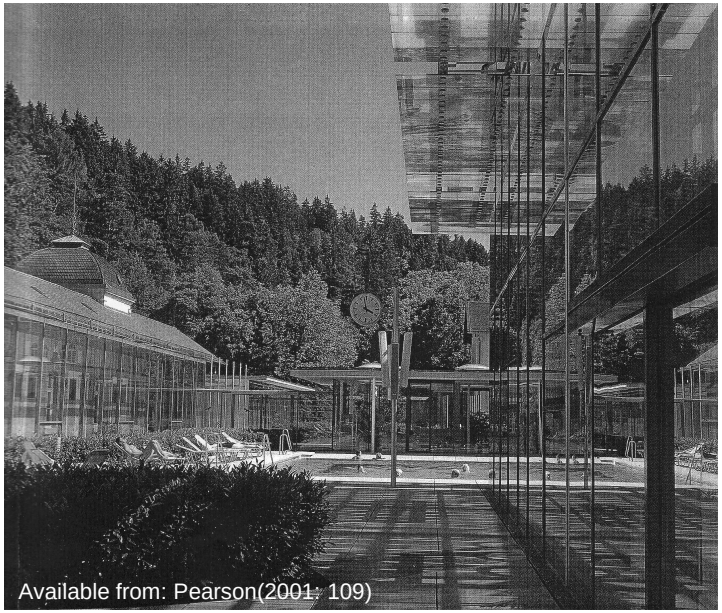
Spa Recreation Centre Bad Elster, Bad Elster, Germany| Behnisch & Partners

Summary: A study of how the architect sparks the revival of a old historic spa with a set of colourful glass structures inserted within a 19th century courtyard. Creating a whole new identity to the place.

Aim: To understand the concept of designing a social interaction space and how the old and new buildings integrate with one another and create a new identity to the space.

Important to Note: How the old and new structure work with one another in harmony, creating a space that encourages more social interactions and interactions with the natural landscapes.


Available from: Pearson(2001: 109)


Available from: Pearson(2001: 109)

(Top) The architects inserted a series of modern glass structure in the courtyard of the old spa. To get from outdoor pool to the indoor one, guest can swim through the water gate.
(Right) Visitors can see one another through the transparent skin, inviting social interaction.

Precedent Study #3//

Spa Recreation Centre Bad Elster, Bad Elster, Germany, 2000: Behnisch Partners

Location: Bad Elster, Germany
Date of Project: 1998 - 2000
Intention: To give the place a brand new identity and uses.
Concept: The use of transparent see through skins that encourages more social interactions and interaction with the natural landscape.

The Situation

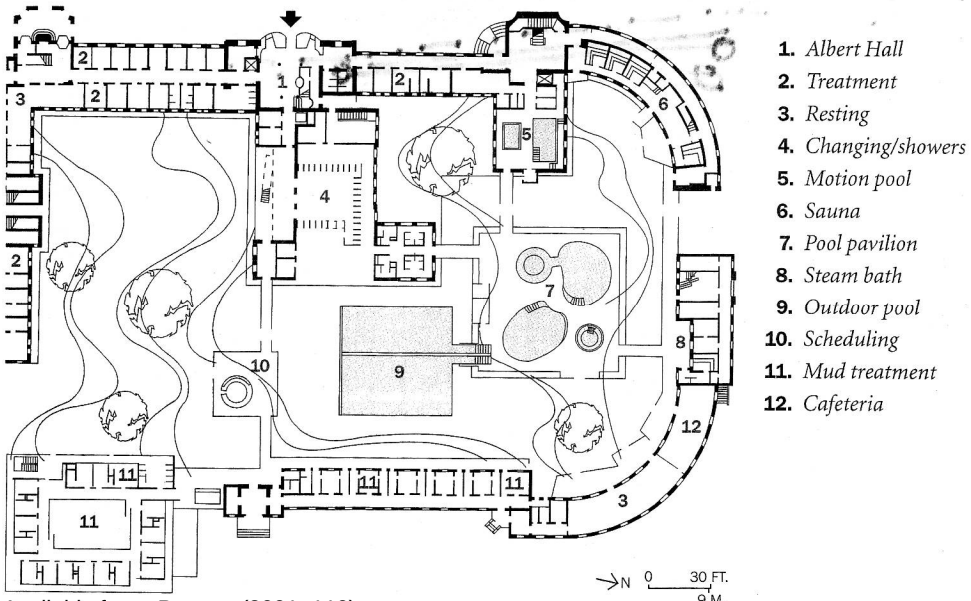
Bad Elster's glory days with its famous natural hot springs ended with World War II. In 1994 the local authority decided to renovate its landmark spa buildings and give new life to the deserted inner courtyard, which had been used by the East Communist Germany for storing coals and industrial equipments.

Since the fall of Berlin Wall in 1989, Germany's 350 spa towns have been competing for younger clients to supplement the pensioners on cures who had been their traditional market. To attract stressed-out young executives and tourists, what Bad Elster needed is a makeover.

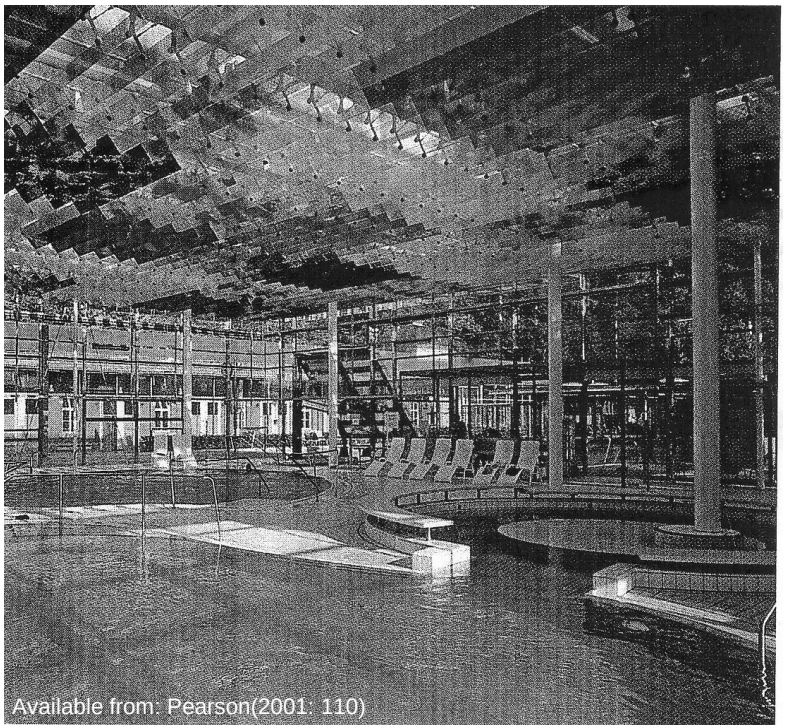
The Solution

The local authority hired Behnisch & Partners to give its historic buildings a face-lift – renovating everything from subterranean steam pipes to old wall surfaces – and to add new facilities.

Instead of imitating the old architecture, the new elements are mostly glass and steel and are clearly modern: a bathhouse, an information hut, and a treatment pavilion. The architect also attached glazed passageway and galleries onto the spa's historic walls. The result is a playful "bath-scape" with a colorful bathhouse as the youthful new heart of the complex.



Available from: Pearson(2001: 110)



Available from: Pearson(2001: 110)

(Top) Ground floor plan of the building.
(Right) Suspended louvers can open and close depending on the weather, each louvers is coated with different colours, making the field of colours look like floating across the sky.

Programs and Planning

Visitors enter the building from the west, through Albert Hall, a grand space that sets the stylistic tone for the complex. Together, the old buildings form a great court with two-story wings running perpendicular to the main façade.

The architect understood people's great affection for the old buildings, but argued successfully that the new facilities should mark a deliberate break with the existing architecture. The architect's solution was to insert within the old courtyard a set of buildings that use colour and glass to establish their own identity. It set the transparent new structure inside the existing courtyard, using the elevation of historic buildings as a rich background. The additions are placed in a loose and open manner within the old space, inviting social interaction. Visitors can see one another from the building, but they get great feeling of enclosure from the wings of the spa wrapping around the courtyard.

The bathhouse, the largest structure in the courtyard, contains three splash pools connected by a water gate to two outdoor pools. The building's double skin construction has air space between its twin layer of glass, so it acts as a thermal buffer between outdoor and indoor. The roof contains an ingenious climate control system with an outer layer of clear insulating glass mounted on a steel grid and glass beams. On top, the roof's gently sloping surface keeps rain water on the move. Below this, suspended from the main steel frame, glass louvers can open and close, depending on the weather. The outer surface of the louver is printed with a heat resist coating to reduce the impact of the sun, but the underside is more alive: the architect coated these surfaces in blue, green, yellow and red, making the uneven fields of colours floating across the sky.

.04-4

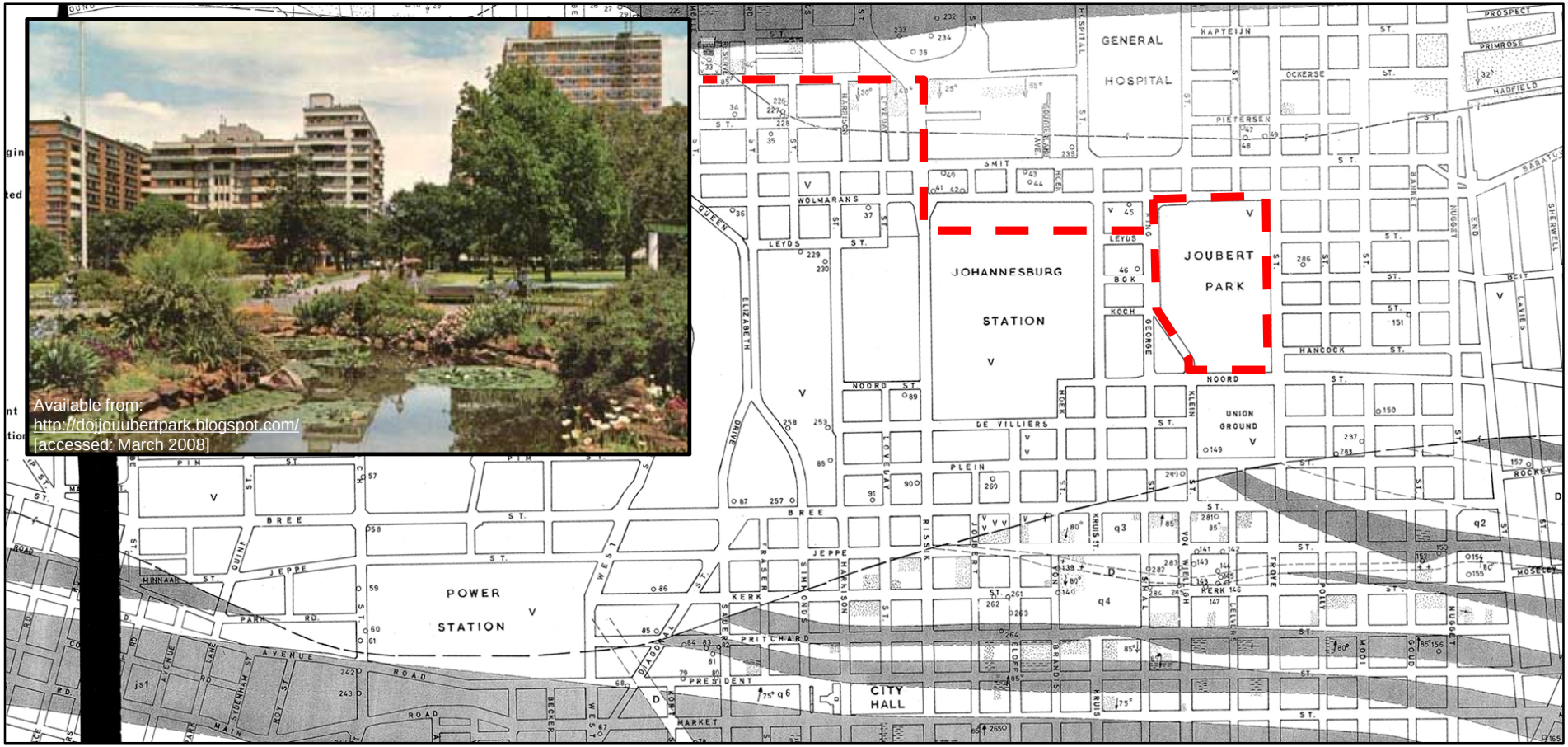
Precedent Study:

Joubert Park, Johannesburg, South Africa

Summary: A study of an existing park space in Johannesburg to gain insight for the design of the safer park space proposed in this dissertation.

Aim: the principal aim is to highlight problems, which individually or collectively have the effect of reducing the quality of the open space system in our city.

Important to Note: How problems defined in the study have resulted to the abandonment of the park.



Precedent Study # 2//

Joubert Park, Johannesburg, South Africa

Joubert Park was one of the first open spaces for Johannesburg's inner city, proclaimed in 1906 but planned in 1887 and named after Boer War hero, Commandant-General PJ Joubert. It was originnaly designed to be as New York Central Park of Johannesburg, however, as the results of ignoring and abandonment, the park is slowly decaying…

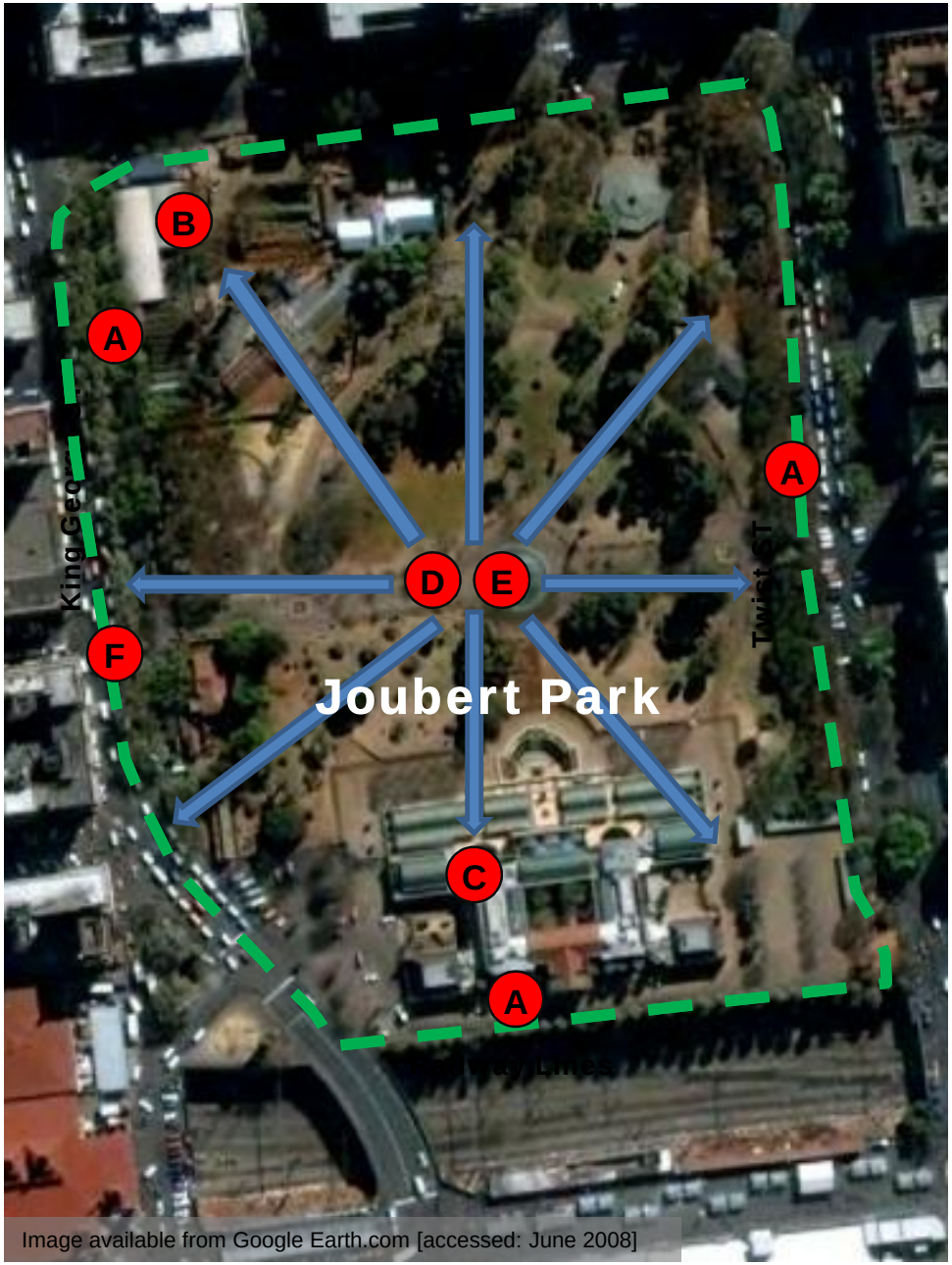


Image available from Google Earth.com [accessed: June 2008]

Problems:

A There is **poor line of sight** to look into the park:
- On the west there is a high wall prohibiting line of sight into the park.
- On the east the park is served from Twist Street by a fenced in bus lane.
- On the south the park ends against the railway lines.

B **Land use has not been optimised**; the position of the service zone of the park in the north-west corner is unfortunately situated in the area most populated by people.

C Facilities provided within the park are not best suited to benefit park users and the surrounding residential components.

D **Poor lighting** condition in the park during the night, there are too many blind spots that provide cover for offenders.

E **Crime** and v**agrancy** is a serious problem within this area and particularly within the park.

F Street planting and furniture has worsened pedestrian flows from what they were originally designed for. The street has only been dealt with purely from an aesthetic point of view, movements and use has not been considered.

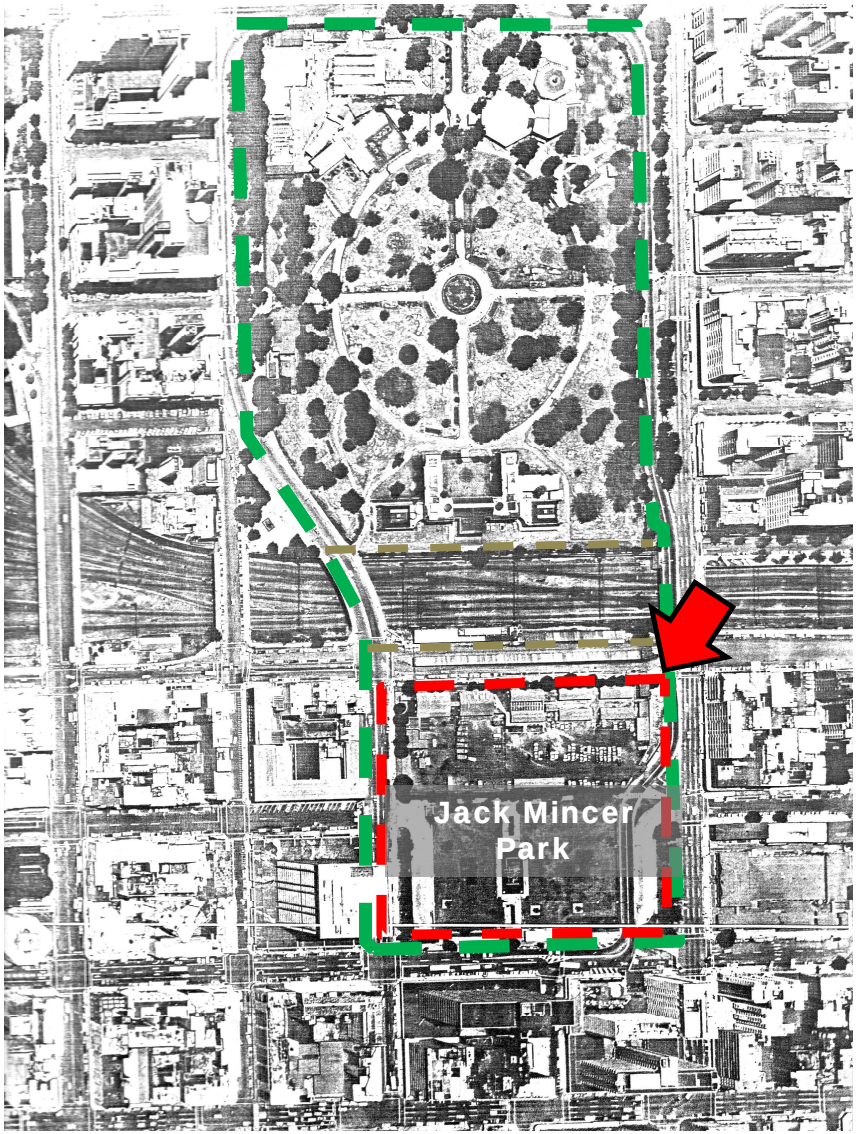
Image by author

Image by author

Opportunities:

- Strengthening and introducing new activity generators and facilities to enhance park usage and living condition within the area.
- Relocate service zone may be to area east of Twist Street – as close as possible to the railway line. The most populated north-west corner should be opened up to the public if not physically then visually in order to facilitate easier usage.

Jack Mincer Park is an example showing what would happen to the rest of park spaces in Johannesburg if we continue ignoring these spaces – they will be converted to other uses and disappear from city plan permanently.



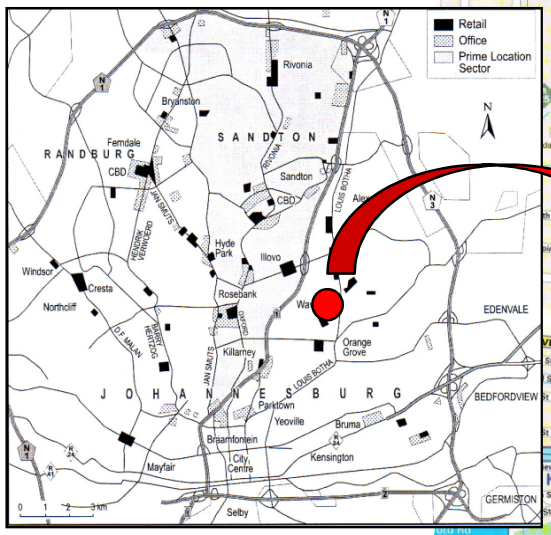
Aerial photo of Joubert Park with Jack Mincer Park
(Image available from Halford 1982: 126)

Aerial photo of demolished Jack Mincer Park 2008
Image available from Google Earth.com [accessed: June 2008]

The Site

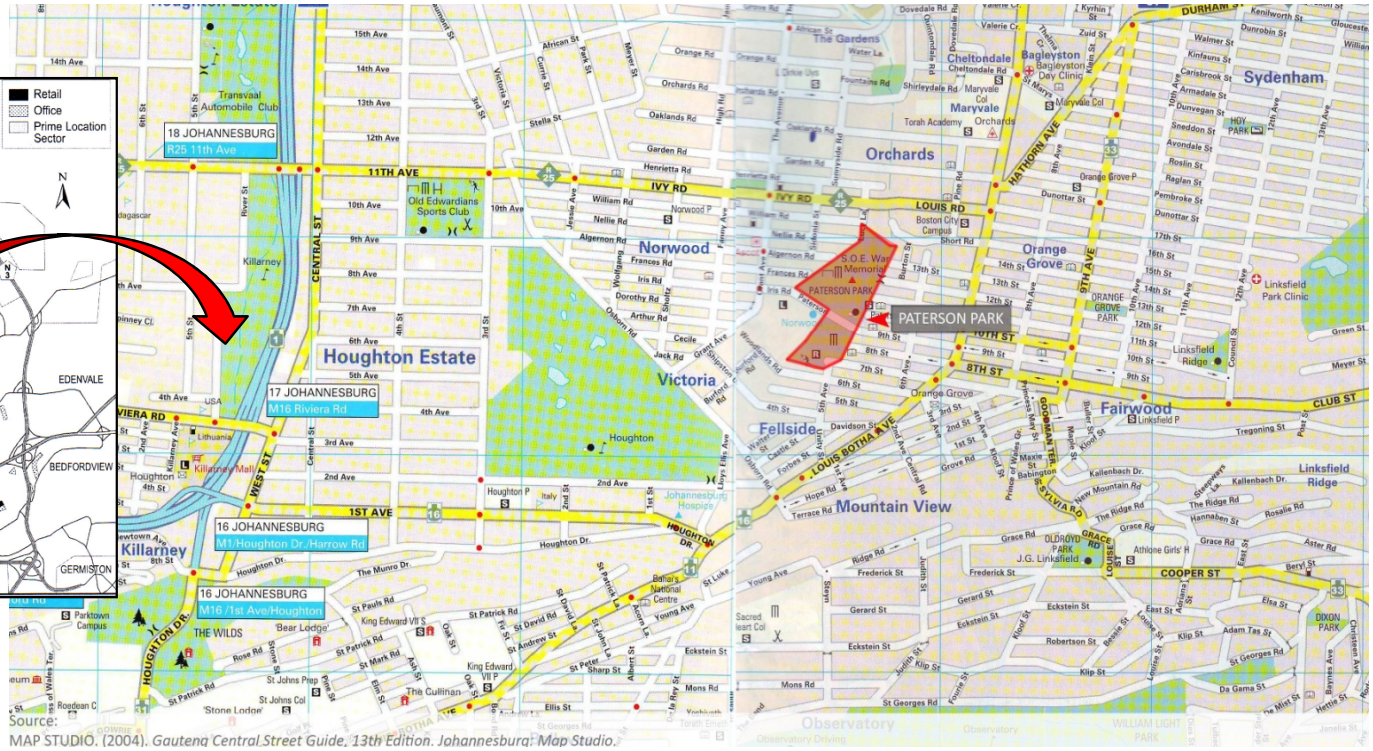
5.0

5.0 The Site



Top: Johannesburg Locality Map
Available from: Beavon 2004:253

Right: Street Map of Norwood
Available from: Map Studio 2004: 82-83



Source:
MAP STUDIO. (2004). *Gauteng Central Street Guide. 13th Edition. Johannesburg: Map Studio.*

5.1 Site Location

My site selection will be determined based on the following three key factors:

- § Accessibility – *how easily the users can get to the area.*
- § Visibility – *is the location itself in a situation that it is isolated from the population?*
- § Compatibility - *how it responds to the neighbourhood and how it comply with legislations.*

As the proposal of this thesis is a sport and recreational facility for public use, therefore, a public open space will present a good choice of site as they can be easily linked together. Although, there are many existing public open spaces within Johannesburg that present an easy choice as they have the space to be developed for recreational purpose, as most of these public open spaces have not been developed to any great extent there are likely to be many objections to such a proposal on the grounds that it would be an encroachment into a public area which should remain undeveloped and remain as open public space.

The exception to this is Paterson Park in Norwood, Johannesburg, which has already been developed to a certain extent as a public recreational park with certain sport facilities. In addition, according to *Johannesburg Town Planning Scheme 1979*, although there are certain restrictions when it comes to developing a public open space, after a meeting with staff from Land Management Department at Johannesburg City Council, the conclusion was that City Council would not have any objection to such a

proposal in Paterson Park because the proposal didn't conflict with its land use rights but actually improving it. This park also fulfils the three main location criteria. The park is currently little used by the public due to security issues and lack of place of interests that attracts public's attention and therefore it presents an ideal opportunity.

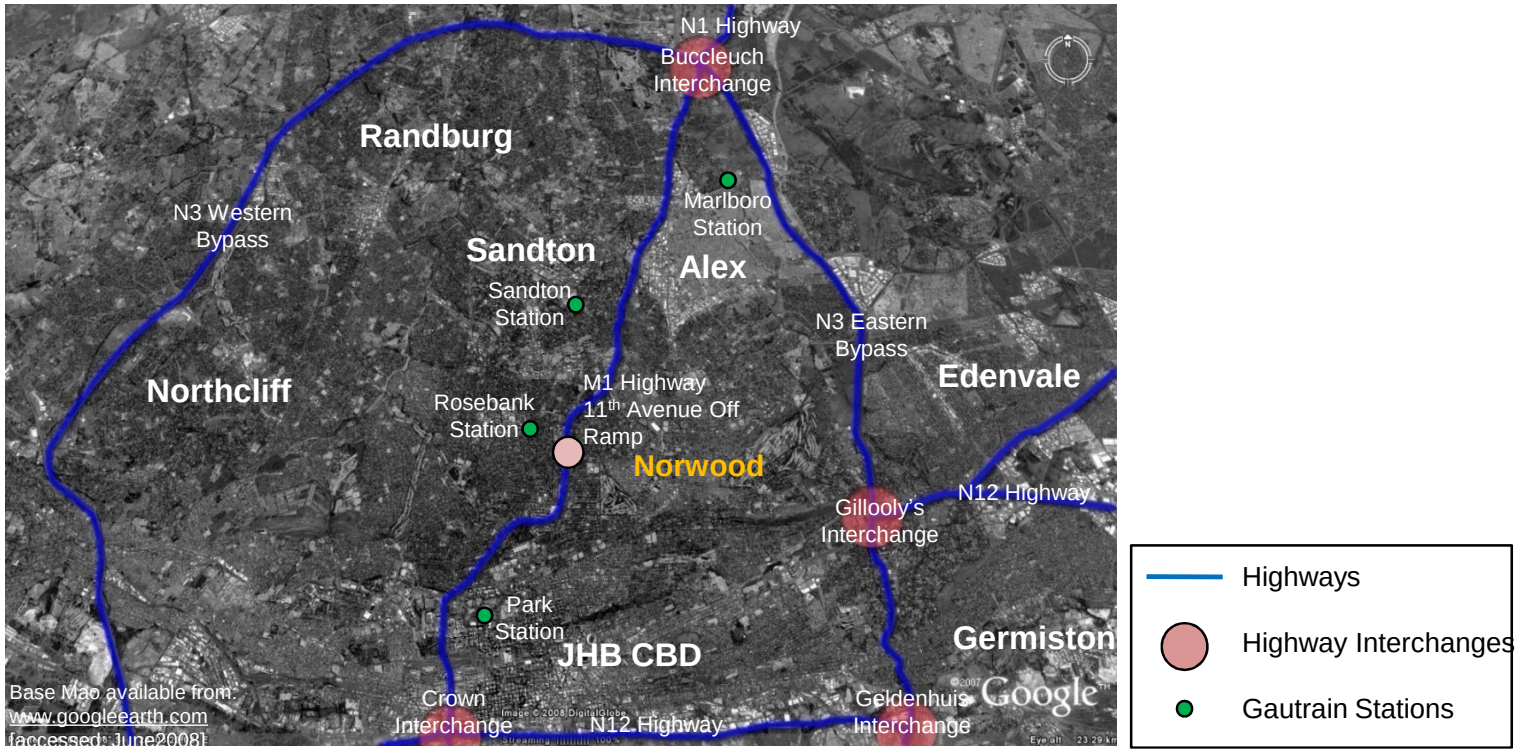
The park can be accessed from two streets: 9th Street; which is an extension of Iris Road and is linked from Osborn Road through to Louis Botha Avenue. The site can also be easily accessed by M1 highway, the 11th Avenue Off ramp leads directly to the site.

Norwood and the surrounding suburbs are predominantly residential, which presents better potential users of the facility compared to a site in a business or commercial area. Other uses which exist within the immediate area include local shops, schools, police station, library and other uses directly concerned with the daily needs of the residents.

5.2 Site Studies in Relation to Greater Johannesburg Metropolitan Area

5.2.1 Metropolitan City Wide

In the citywide context Paterson Park is located in a predominantly residential area in the north-east sector of the city. It is located in one of the older established areas of Johannesburg which has close links to the centre city.



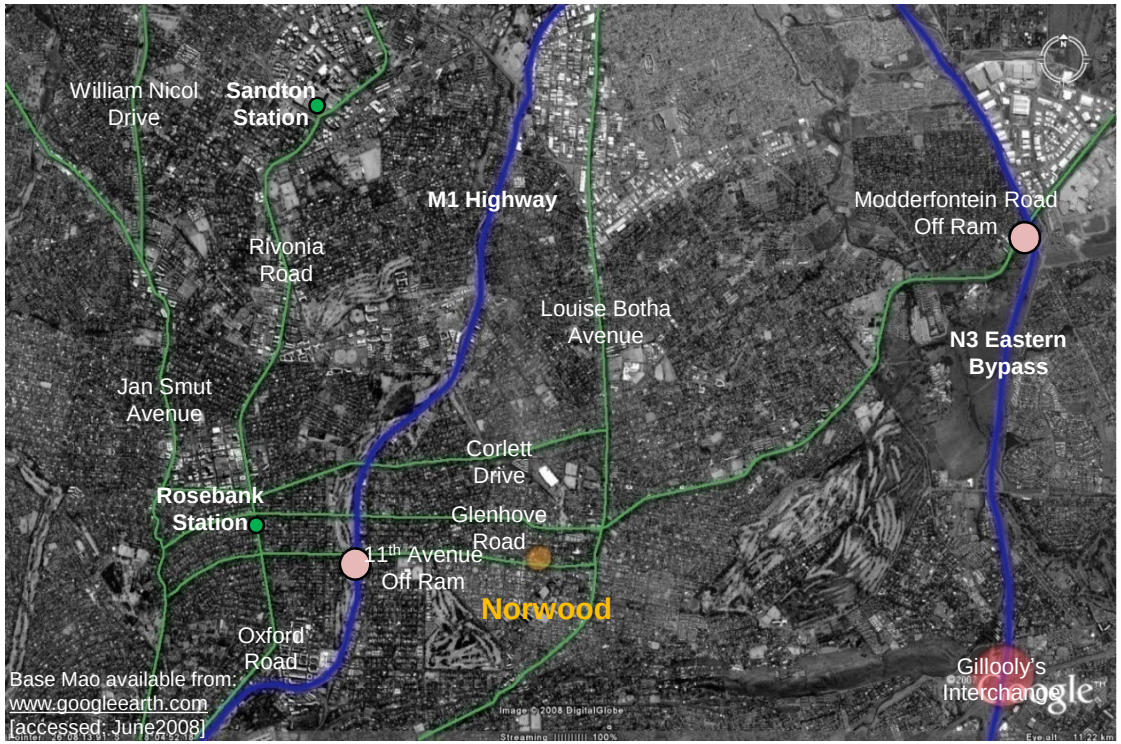
It is accessible via the network of highways located through and around the city. The links include the M1, N1, N3 and N12. Direct access can be gained to Paterson Park from the M1 motorway via the 11th Avenue off ramp intersection through Houghton and Ivy Road, Norwood.

The nearest existing railway station is Park Station, Johannesburg, which is some 7km distance from Paterson Park. With Gautrain Rosebank Station currently under construction, once completed and operational, the distance would be reduced to 4 km. However, it is also worth mentioning at this point that Metro Rail Services are making collaborative efforts to accommodate the disabled people on the trains, with interventions such as disabled access on the platform and disabled seats within the train.

5.2.2 Metropolitan Sub-Structure

Norwood at present falls under the jurisdiction of Johannesburg City Council. However, it will eventually fall into the North-Eastern Metropolitan Sub-structure. The boundaries at present stretch from Lonehill in the north to Jeppestown in the south and east to west, Linbro Park and Hyde Park.

The area is bisected by the M1 highway which is easily accessible from the suburbs on either sides. Parallel to the highway are the arterial routes of Oxford Road and Louise Botha Avenue. These



The road pattern through Norwood is set out on a grid pattern which links easily with the arterial roads and onto the highways.

- Main Roads
- Highways
- Highway Interchanges/ Off Ramps
- Gautrain Stations

routes are crossed by the east-west arterials of 11th Avenue, Glenhove Road, Corlett Drive, Grayston Drive and South Road Extension. All these roads provide an effective network which can filter the traffic through the suburbs with relative ease.

Taxis are also in evidence throughout the area. Their origin and destination of the routes are being dictated by the resident population.

5.2.3 Neighbourhood

Norwood is easily accessible by road from all directions. The road pattern through Norwood is set out on a grid pattern which links easily with the arterials and onto the highways. It can be accessed by the municipal bus services; the no. 10 bus route runs from the Stock Exchange to Waverley throughout the day till 18:00 pm. The most frequent times being during peak hours, thereafter hourly. It serves Paterson Park well as it runs along Grant Avenue. It could be served by taxi if arrangements were made with the relevant taxi association. The taxis which serve the area are regulated by two main taxi groups: The Alexandra Taxi Association and The Faraday Taxi Association.

Transit links could be made from the centre to the train service if this was found to be necessary as the distance to Gautrain Park Station and Rosebank Station is not great.

5.3 Site Analysis

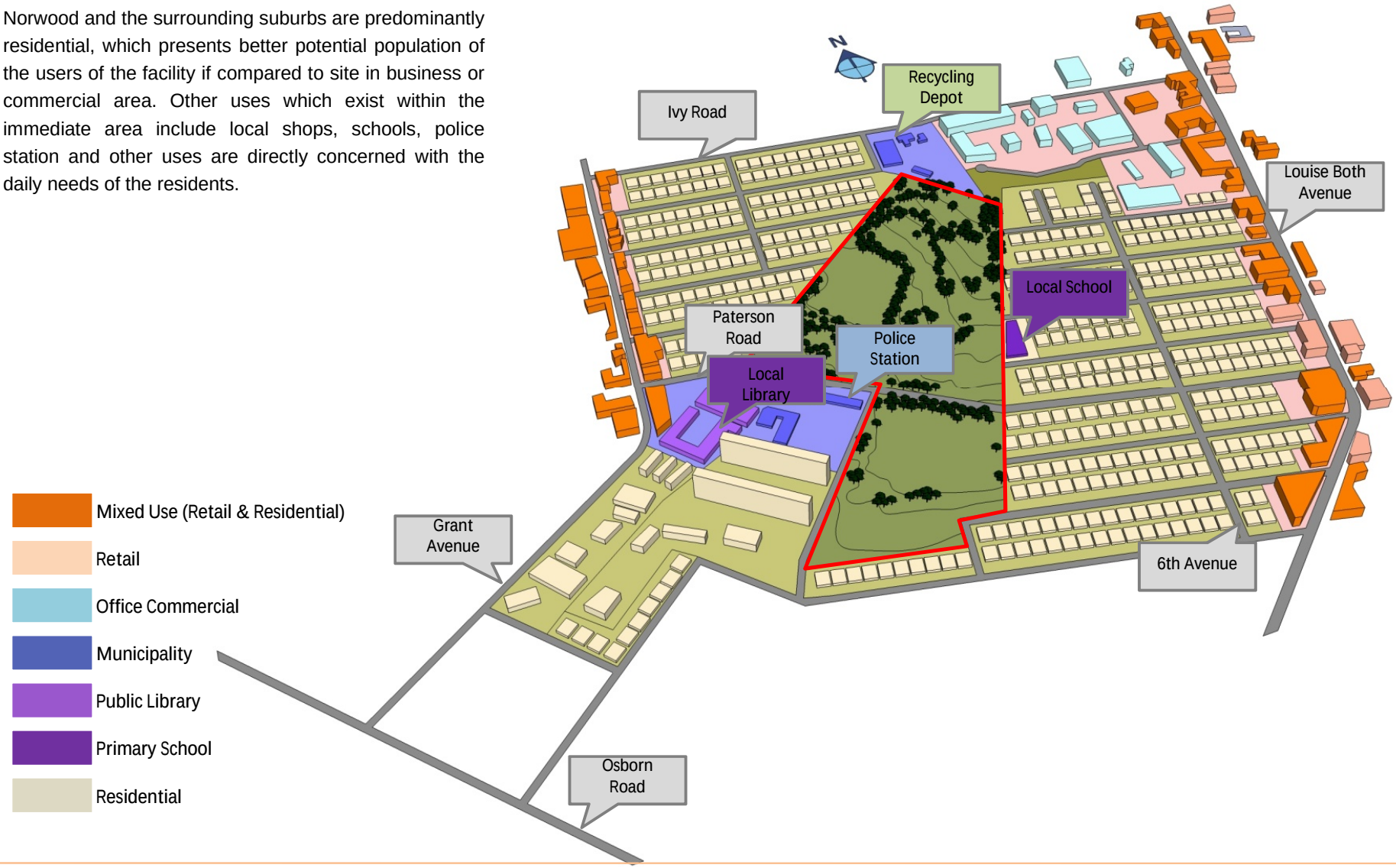
Mappings:
Land Use
Traffic Intensities (Vehicle and Pedestrian)
Noise Intensity
Existing Greens
Natural Contours
Land Amenity Values
Economic Potentials
Access Routes
Visibility Level
Securities (Active and Passive Surveillances)

Base Mao available from:
www.googleearth.com
[accessed: June2008]

Mapping 1

Land Uses

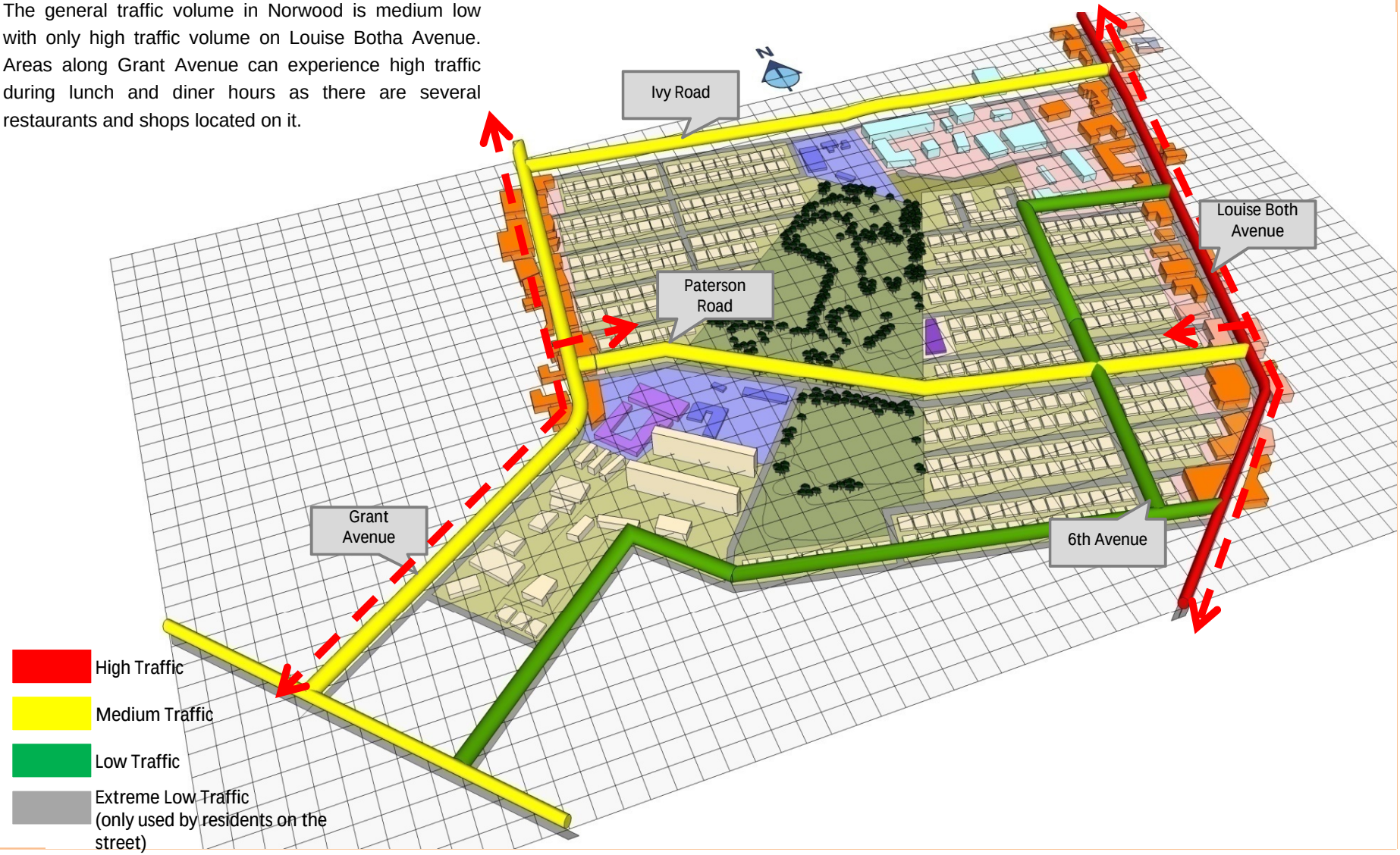
Norwood and the surrounding suburbs are predominantly residential, which presents better potential population of the users of the facility if compared to site in business or commercial area. Other uses which exist within the immediate area include local shops, schools, police station and other uses are directly concerned with the daily needs of the residents.



Mapping 2

Vehicular Traffic Movement

The general traffic volume in Norwood is medium low with only high traffic volume on Louise Botha Avenue. Areas along Grant Avenue can experience high traffic during lunch and diner hours as there are several restaurants and shops located on it.



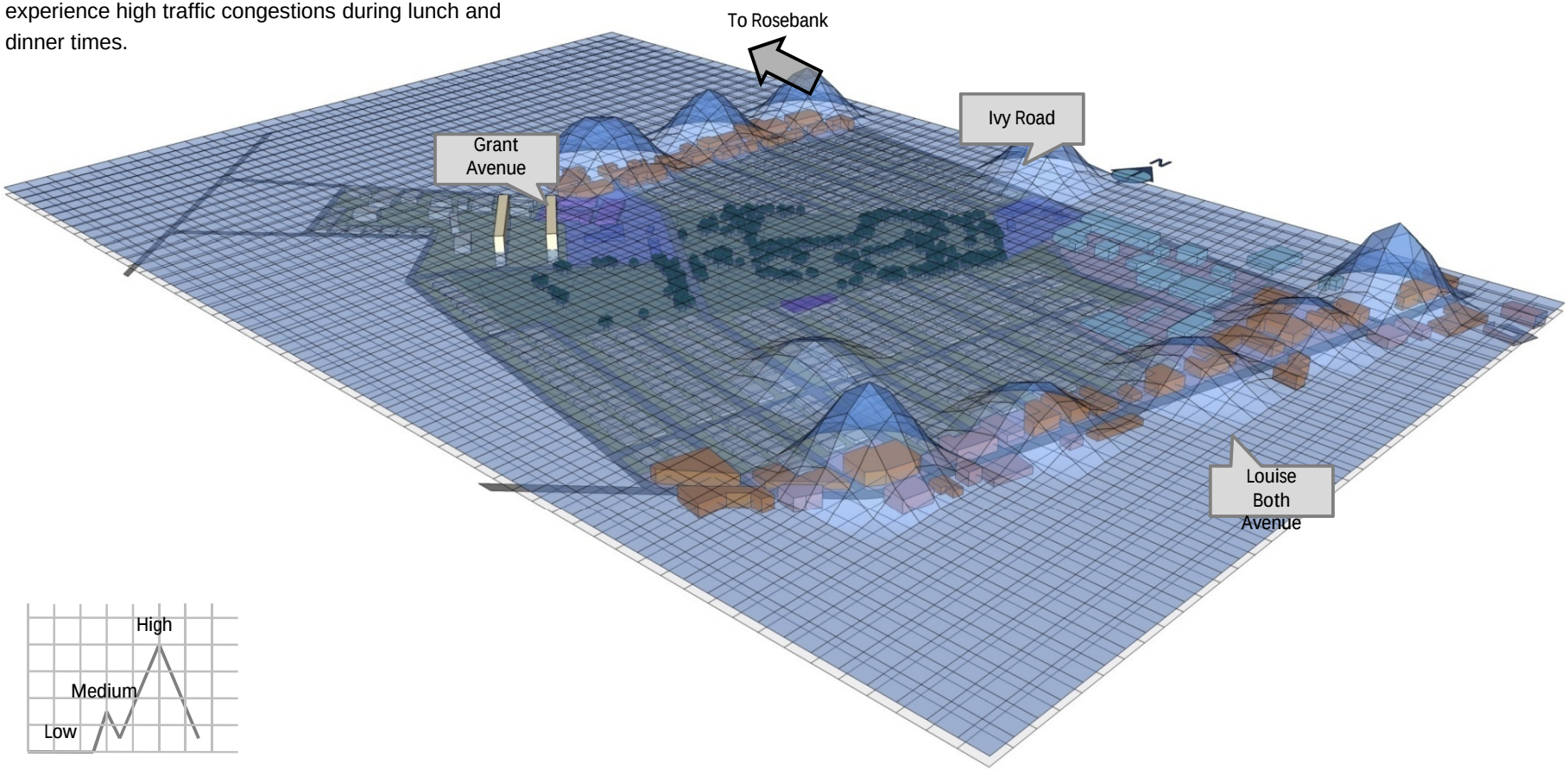
Mapping 3

Vehicular Traffic Congestions

Louise Botha Avenue
Louise Botha is experiencing high traffic congestion all day long and it is especially high during peak hours.

Grant Avenue
Due to high number of restaurants and shops, it can experience high traffic congestions during lunch and dinner times.

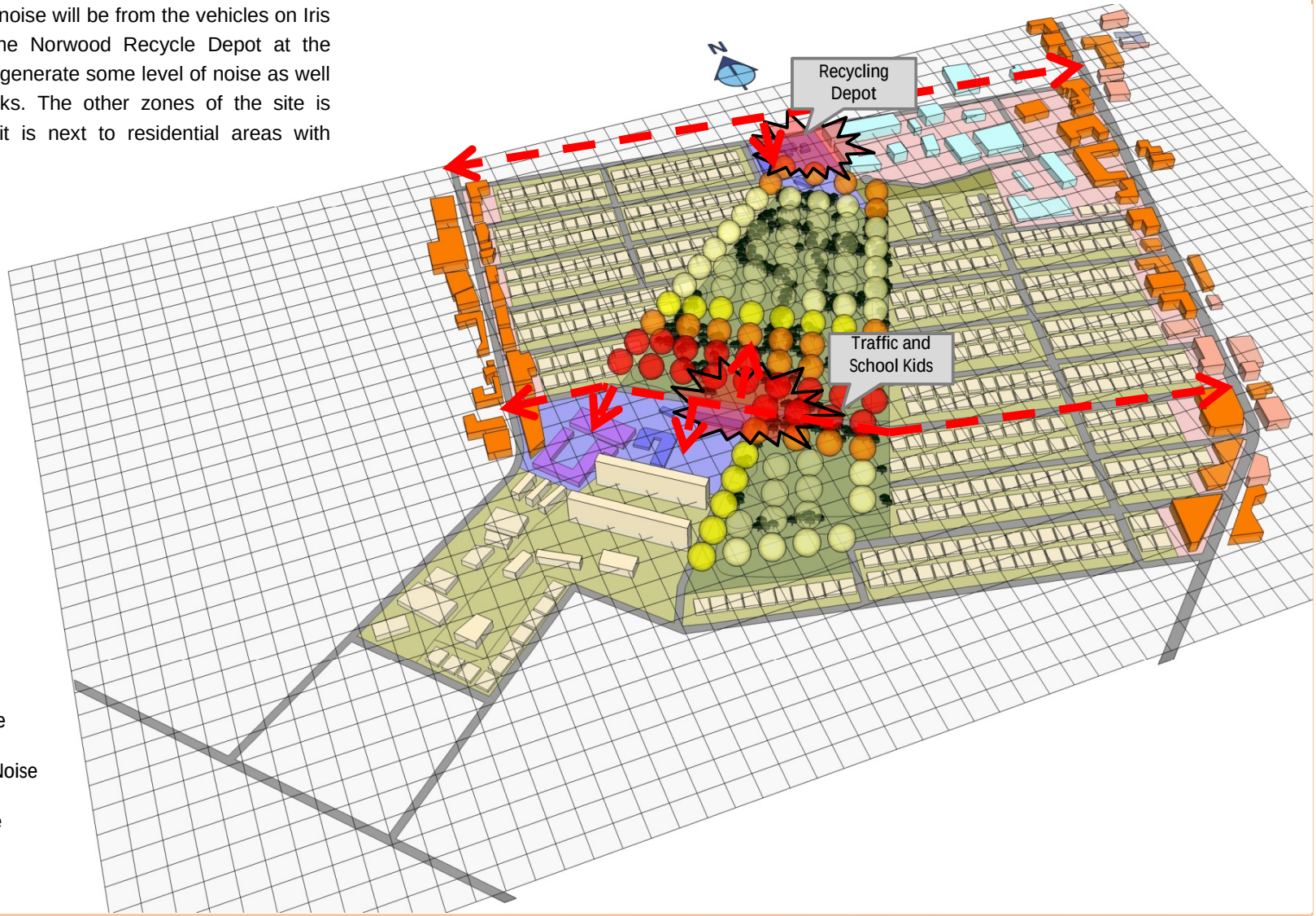
Ivy Road
as one of the linking road between Rosebank area and Louise Botha, Ivy Road can also experience medium – high congestion during peak hours.



Mapping 4

Noise Level

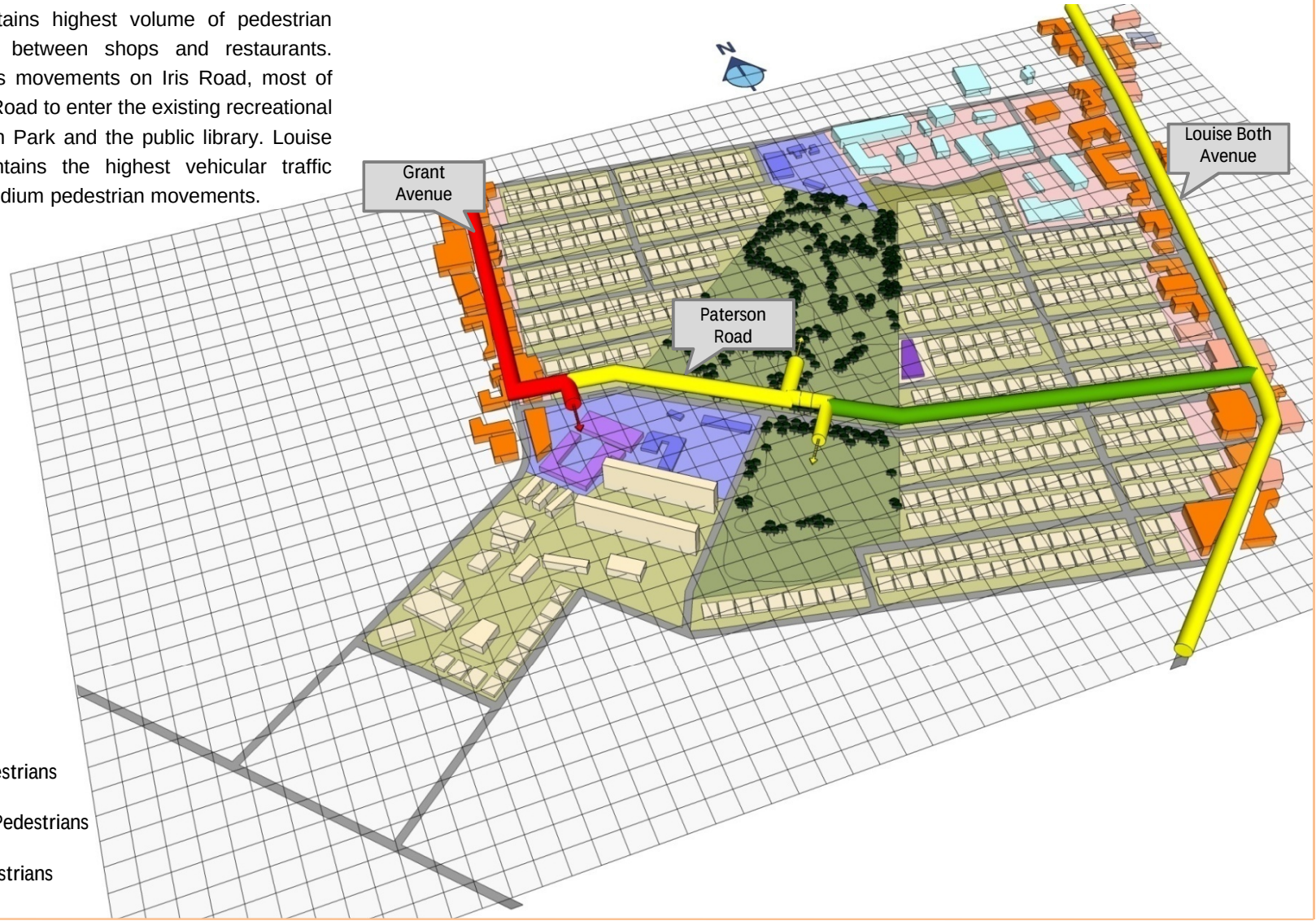
The main source of noise will be from the vehicles on Iris Road, however, the Norwood Recycle Depot at the north of the site will generate some level of noise as well by the moving trucks. The other zones of the site is relatively quiet as it is next to residential areas with minimum vehicles.



Mapping 5

Pedestrian Movements

Grant Avenue contains highest volume of pedestrian movement, mostly between shops and restaurants. Medium pedestrians movements on Iris Road, most of population use Iris Road to enter the existing recreational facilities in Paterson Park and the public library. Louise Botha Avenue contains the highest vehicular traffic volume, but only medium pedestrian movements.



Mapping 6

Site's Visibilities

The site has its maximum visibility through Iris Road, however, the tree rows might block the viewers'' vision looking deep into the site. The cal-de-sac at the end of streets attaching to the site also provides visibilities of the site, however, these cal-de-sac has been blocked off and no physical access to the park.

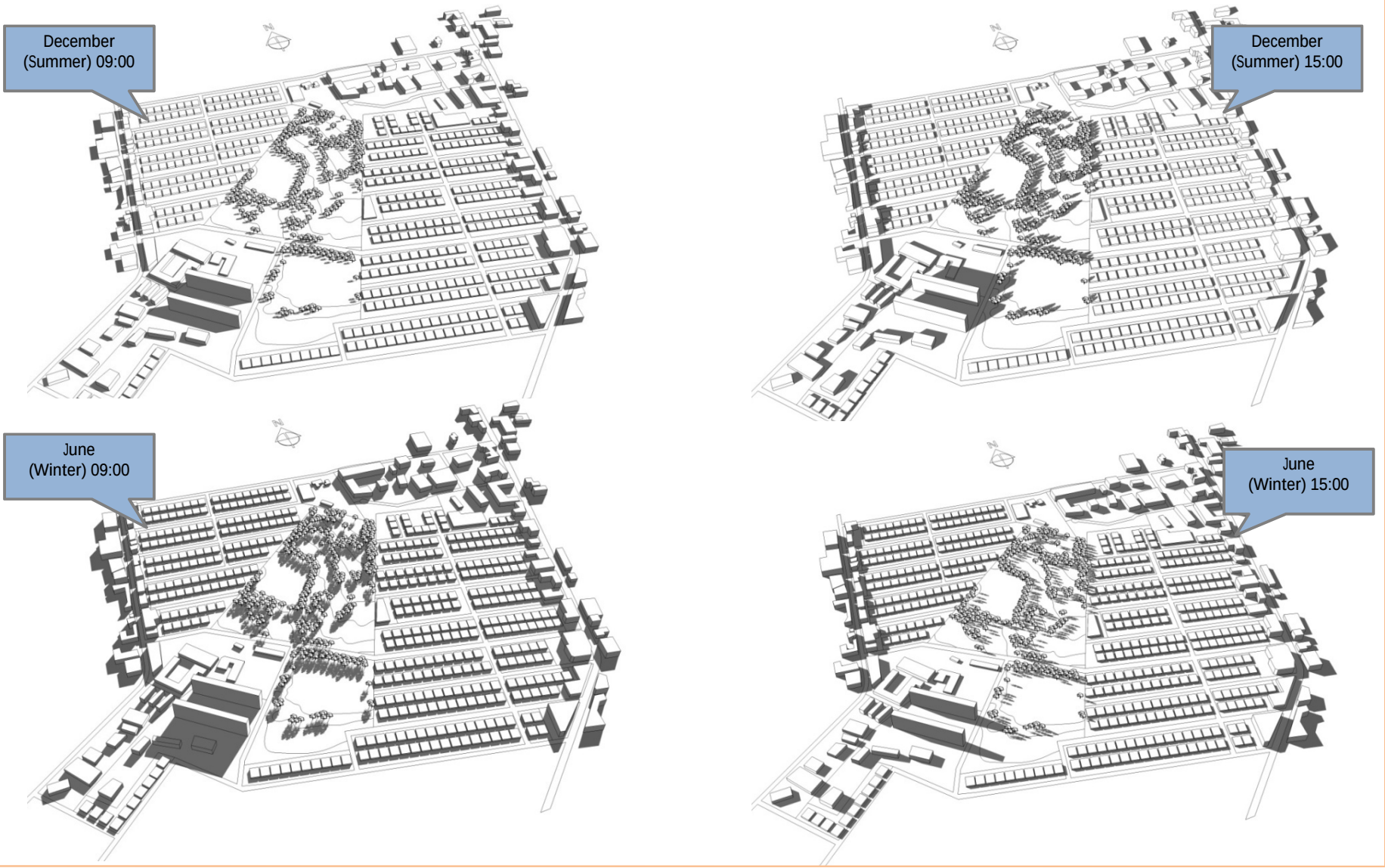
Mapping 7

Site's Permeability

The best accesses into the site will be on Iris Road as it contains the highest visibility on the road. However, the road blocks on each cal-de sacs can be removed in future for alternative accesses into the site.

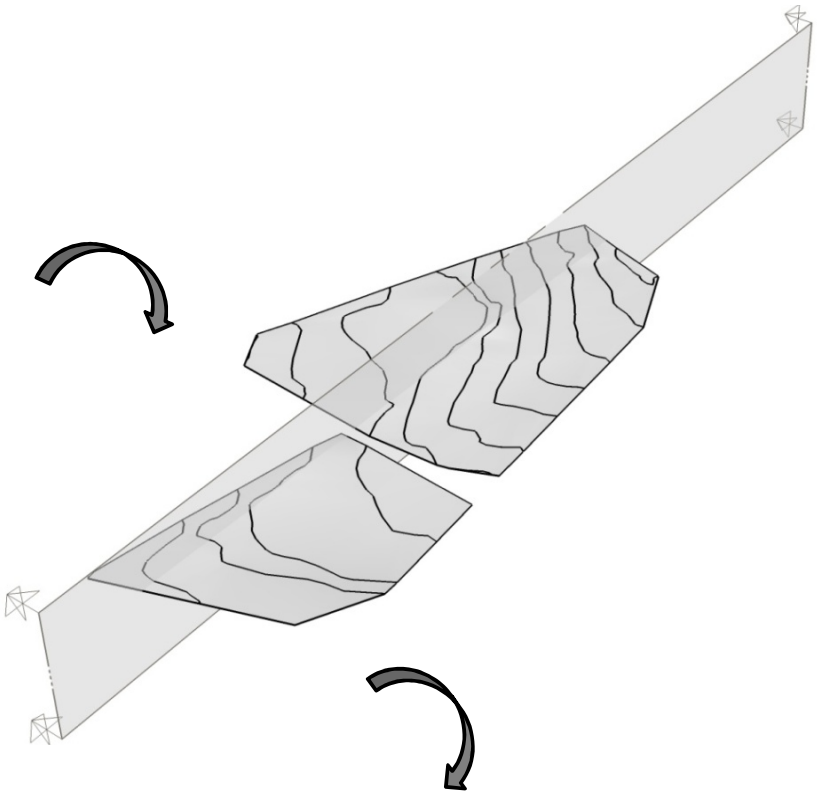
Mapping 8

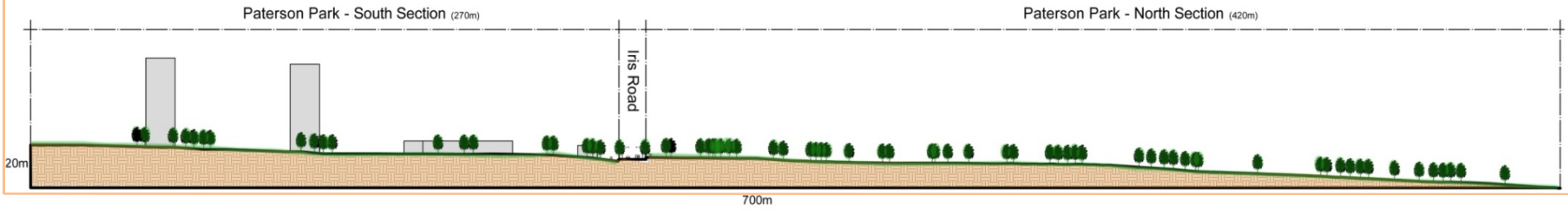
Site's Orientation



Mapping 9

Site's Section and Contours





Conclusion

Issues with the Site

Problems:

- Totally isolated from the surrounding residential area, except Paterson Road entrance, all other roads leads to the park have been blocked off.
- The park is highly under-developed and under-utilized.
- Poor lighting condition in the park during the night, there are too many blind spots which provide covers for offenders.
- Design and placement of street furniture is inadequate and poor. Never used, uninviting.
- Although there is a Police station adjacent, the crime and vagrancy is still a problem in the park. The park being a closed off area from it surrounding only harbours this problem.
- Poor maintenance to the existing sport facilities.
- No users – lack of interests to attract users, abandoned void in the neighbourhood.
- Information obtained from the city council indicating that the park could be sold to developers for new house developments, great loss for the residents.

Opportunities:

- The existing sport facilities could be strengthened and introducing more activities to enhance park usage.
- The park is sloping down towards north, most of the areas receive natural sunlight.
- The site has potential to provide a better playground for the adjacent school.
- The park situated in the centre of a residential area, it should directly respond to the surrounding residential area.
- The park could be link to the commercial areas on Grant Avenue, to provide a resting place for the pedestrians.

Hard edges at the parameter
Image by author

Blocked off access
Image by author

Public space with no users
Image by author

Design Concepts and Developments

6.0

6.1 Design Concepts

6.1.1 Comfort environment for people with disabilities

- **Parking spaces and pedestrian routes to destination**

Special parking spaces for people with disabilities will be adjacent to their destination as close as possible, and connected by a covered and non-slip surface pathway to provide protection from the weather. In addition, for the benefit of people with disabilities, intermediate 'resting points' will be provided along the route from parking area to destination.

- **Pedestrian distance to destination**

The problem of distance is complex for people with disabilities. It is difficult to lay down standards for pedestrian distances acceptable to the disabled people as the ability to cover distance varies from person to person. Many are able to travel as far as able bodied persons but take longer and others are barely able to travel by him/herself at all. The comments from the respondents of the survey with people with disabilities have led to the suggestion that 100m would be an acceptable maximum.

- **Ground Surface**

The ground will need to be both smooth and yet non-slip, this is vitally important to both wheelchair users and ambulant disabled people; a wheelchair bumps up and down unpleasantly on rough surfaces and can skid on wet surfaces. Ambulant disabled people are equally vulnerable; some have great difficulty in maintaining balance, and can be tripped over by slight irregularities in the ground surface.

- **Protection from weather**

Exposure to wet conditions is particularly dangerous to people with disabilities. Wet pavements, if constructed with slippery material, such as smooth stone and concrete, are unsafe for ambulant disabled people who may have decreased sensitivity in their feet. Thus, Protection from these elements will then need to be provided wherever possible; this is especially important over ramps where wet surfaces can be dangerous.

- **Signposts indicating directions**

Clear directional signs and simple straight forward movements lines must be provided. They are essential for disabled people who cannot afford to make a mistake in finding their way.

- **Resting places**

Ambulant disabled people would need rest areas as strategic point on their routes to destination and for seats in parks and gardens.

- **Street furniture**

Good lighting will need to be provided on all pathways. This is very important for people who are uncertain of their steps. Where there are pavement posts on the pavements, they should always be adequately spaced in between to allow access for wheelchair users.

- **Vertical Circulation – Ramps and Steps**

New multi-storey developments often have ramps rising through full storey height in one unbroken stretch. This type of ramp even with a gradient of 1: 12 is not acceptable to either self propelled wheelchair users or ambulant disabled people, these kinds of ramps were too long and intermediate landing places for resting are needed.

- **Fire Escape**

The primary method of escape for the general public in case of fire is always by mean of staircase. Lifts are not considered as a suitable method of escape unless they are operated on a separate electrical circuit. Since such lifts are not always provided, in this case people with disabilities will need to be able to circulate horizontally to areas of comparative safety and wait for rescue. Therefore, I recommend that if possible, areas which will be mainly used by disabled people should be placed as low level as possible close to ground level and open ground.

- **Entrance**

Goldsmith (1976) recommends that at least one entrance door, served by an accessible approach, should be not less than 835mm wide and should give a clear opening width of not less than 785mm. Raised thresholds should be avoided but where essential they should not be raised more than 20mm above the level of the floor. Revolving doors are not suitable for use by disabled people. Automatic doors however are very helpful to all disabled people.

- **Internal circulation**

An uncrowded route is one of the environmental factors which respondents frequently mentioned as being desirable. Therefore, the pedestrian pathways should be wide enough to allow for this factor.

To allow the circulation of wheelchairs, Goldsmith (1976) recommended that corridors and passageways should not be less than 1220mm wide, and doors should give a clear opening width of not less than 785mm.

Image by author

6.1.2 Creating a safer public park spaces

- **Planning**

An important issue is the multi-mixed-use context within which the recreational open space is situated. Jacobs (1961) argued that, in general, a park would be negatively affected by the functional monotony of its programs, for example, a vast but empty open green land. A diversity of compatible mixed-use means that people will frequently visit the area with differing schedules at varying times of the day. As such, natural surveillance over urban recreational space will be enhanced.

- **Programmes**

Ideally, recreational space should provide a wide range of recreational opportunities to meet the need for a variety of user groups. Landscaping, furniture, active recreational facilities and equipments, informal recreation (picnicking and lawn games), maintenance, accessibility and legibility as important criteria in the detailed design of recreational open space.

- **Surveillance and visibilities**

There are several elements within a recreational open space that can be designed or located in such a way as to contribute to clear and effective sight lines and enhance natural surveillance. Tree species should be selected so that the branches grows out at least 1,5m above the ground. Bushes should be clustered in such a way that it prevents obstruction to visibility or provide hiding spaces.

The type and location of site furniture could also play a role in enhancing surveillance. Cooper Marcus and Francis (1990) suggest that multi-purpose tables and benches should be provided to cater for different users and if space allows, braai areas are a welcome feature. Benches should also be placed close to play ground so that children can be watched.

- **Activity generator**

The perception of a space as safe is related to the vitality and active nature of the space. Populated spaces often attract more people and add ‘eyes’ to the public space. Active space can be encouraged through interventions such as increasing recreational facilities to a park. It is important to note that activity
generators cannot happen in isolation. They need to be reinforced by, for example, placing a vendor on an ‘active edge’ of a space, or along
pedestrian paths, and children’s play lot could be located next to a food stand.

- **Lighting**

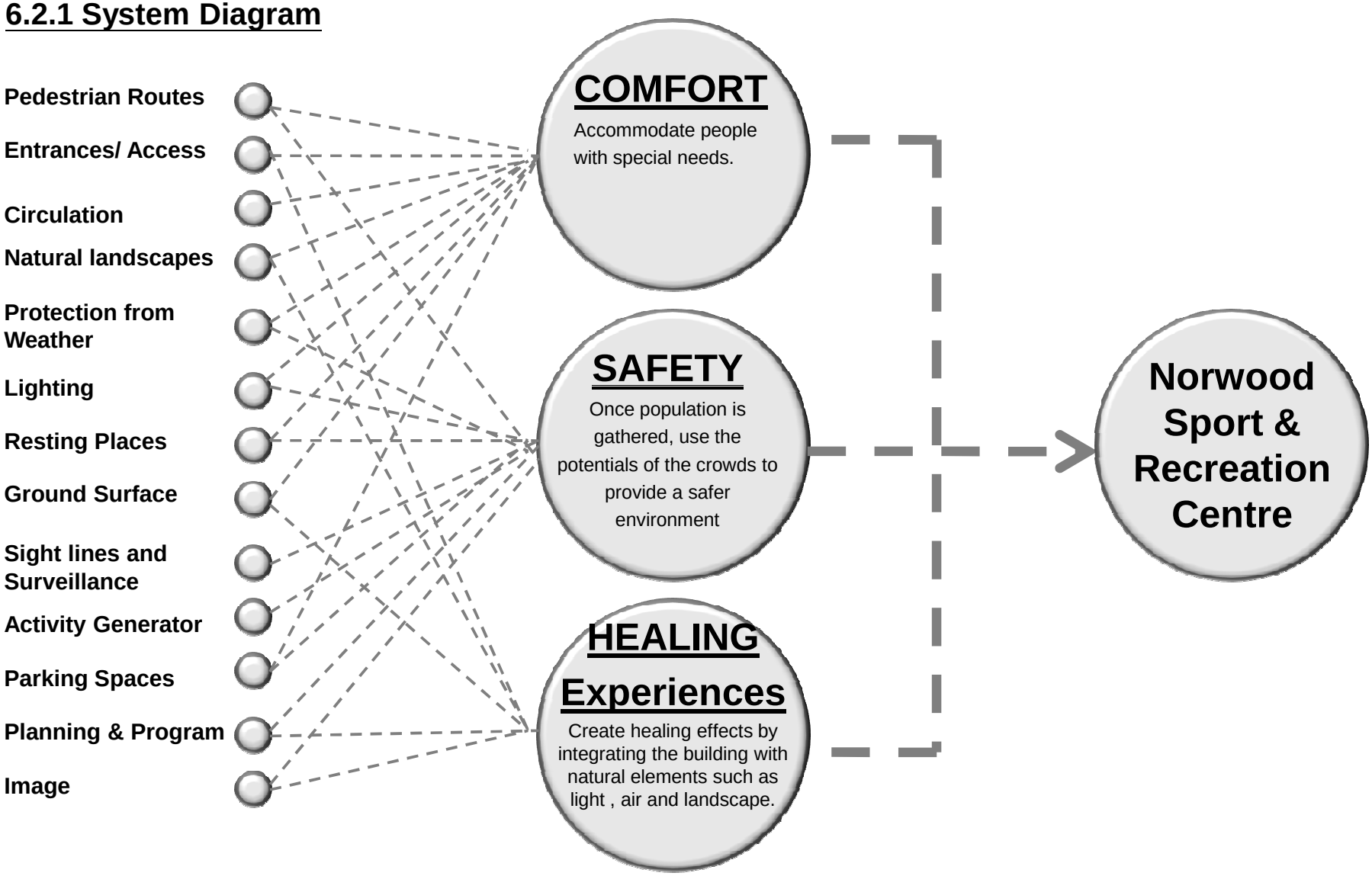
Lighting is used to encourage the utilisation of recreational open space during evening hours. According to Napier (1998), good lighting is probably the most important element for designing safer environment. Good lighting increases the ability of citizens and police to identify and detect criminal activities. Lighting enables people to see and to be seen, the impact of darkness will be reduced and will encourage people to venture and resulting in more vibrant public spaces. A good measure of lighting is when you are able to identify a face at least 15m away (Oc and Tiesdell 1997), this distance provides a person with sufficient time to react to or avoid trouble.

- **Image and motivation reinforcement**

Enabling residents to take responsibility for their immediate environment by modifying the arrangement of buildings adjacent to and surrounding the public space, and thus enhance people’s sense of security by ensuring that open spaces are well maintained and eliminate signs of incivility such as litter and graffiti and “dead spot” resulting from a lack of development.

6.2 Design Developments

6.2.1 System Diagram



6.2.2 Programs – Overall Scheme

1. Indoor Sport

Recreation Centre

- Basketball
- Squash
- Swimming
- Table Tennis
- Fitness Training

2. Outdoor Sport

- Athletic Track and Field
- Cycling Tracks
- Archery
- Soccer Field
- Tennis Courts

3. Recreational Programs

- Recreation Centre
- Cycling Trails
- Picnicking
- Children's Playfield
- Walking Trails
- Resting Places
- Spa Wet Health
- Physiotherapy

In consultation with South African Sports Association for Disabled People, the following sport programs are most popular for disabled people.

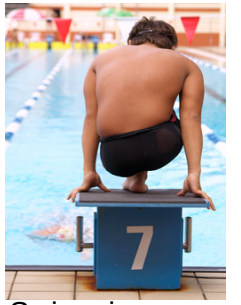

Basketball


Athletics


Archery


Soccer


Tennis


Swimming


Cycling

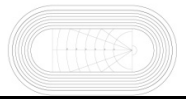
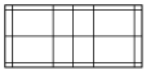
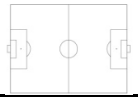
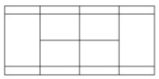
Table Tennis


Fitness Training

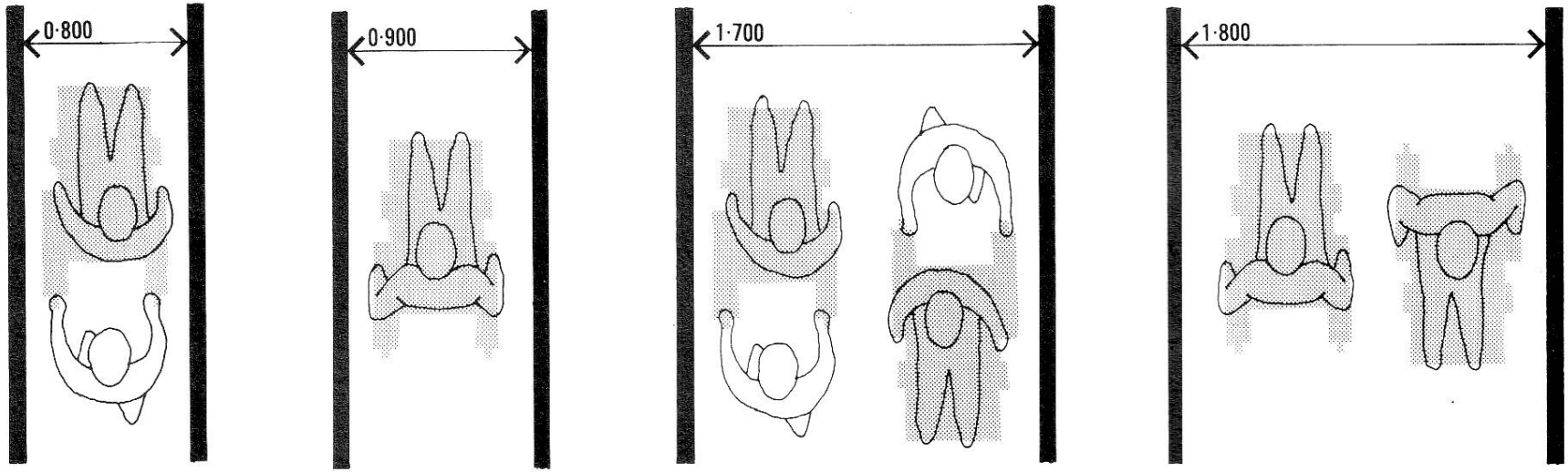
All images available from Google Images [accessed: August 2008]

6.2.4 Understanding the scale of the space

Space Requirements for Each Sport Programmes

	Dimensions (mm)	Layout	Full Compatibility with Disabled People Use	Special Requirement
Archery	5 000 x 105 000 per bay		Yes	-
Athletic	167 000 x 85 000		Yes	-
Badminton	13 400 x 5 180		Yes	Minimum 6,5m clearance height
Basketball	28 000 x 15 000		Yes	Minimum 6m clearance height
Fitness Training	Varied	Varied	Yes	Equipment layout must allow for wheelchair access
Soccer	110 000 x 80 000		Yes	Use half field for disabled people matches
Swimming	25 000x 11 000 (5 lanes)		Yes	-
Table Tennis	2740 x 1525 Per table		Yes	-
Tennis	24 000 x 11 000		Yes	-

Circulation Spaces



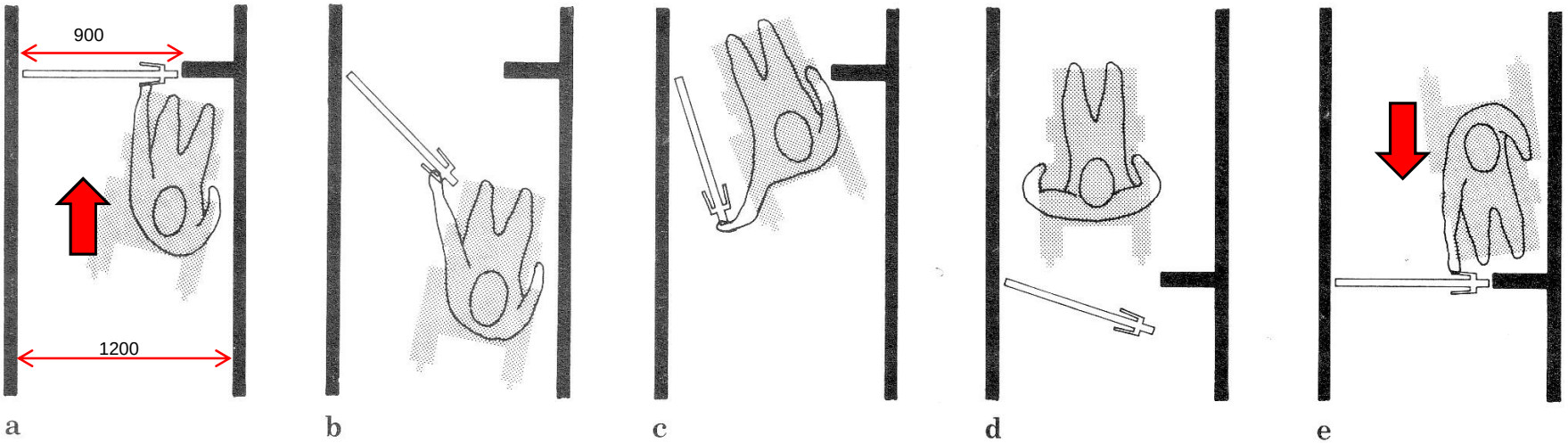
Goldsmith (1976: 149)

Circulation Spaces

In both housing and public buildings, the most common wheelchair manoeuvring situation is passing from a circulation space through a door to a room, or vice versa. The primary constrain is therefore the clear opening width of the door, in conjunction with dimensions of spaces to either side.

- According to Goldsmith (1976), the door size recommended for general use in buildings catering for disabled people is 900mm minimum.
- For wheelchair pushed by an attendant the minimum clear width needed for movement in a straight line is 800mm.
- For self-propelled, the minimum clear width needs to be 900mm.
- To allow for two wheelchairs to pass comfortably the clear width needs to be 1800mm. A width of 1800mm is suggested for main circulation routes in all buildings for disabled people.

Access



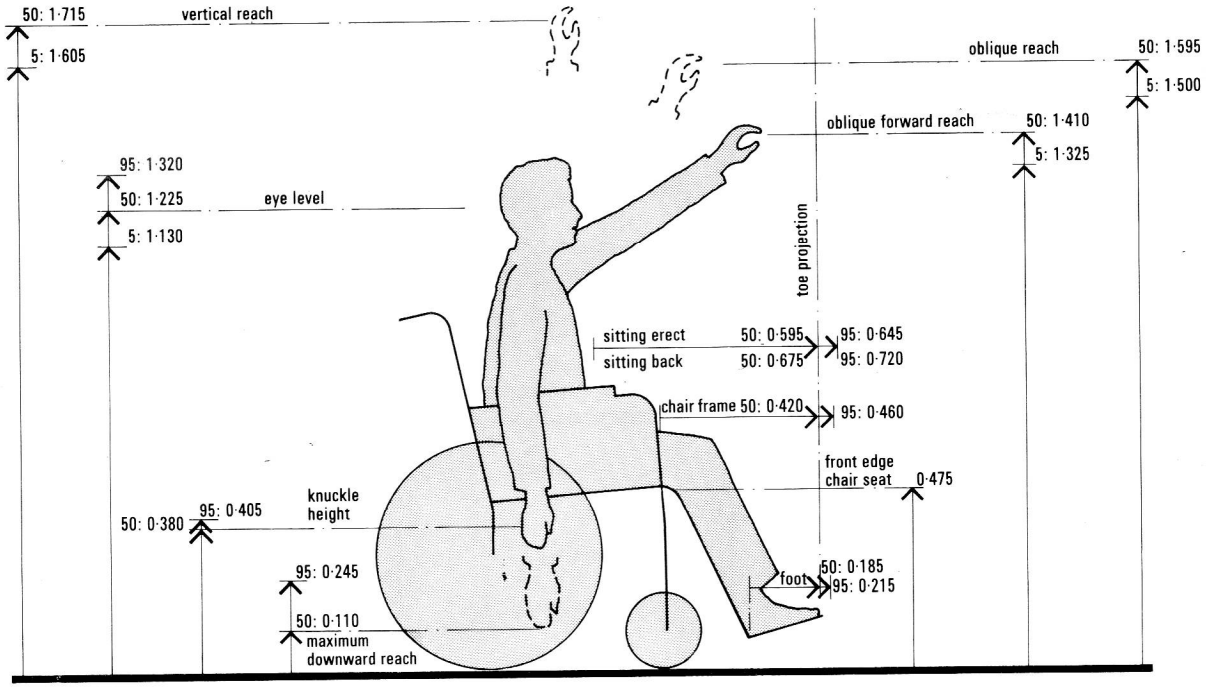
Door Opening
Diagrams showing wheelchair negotiation of opening door in a 1200mm wide passage with 900mm door.
Goldsmith (1976: 149)

Access to Bathroom

The standard bathroom compartment size 2000 x 1700mm recommended for public buildings allows for transfer either laterally across one side of the wheelchair or frontally.

This plan arrangement permits as assistance to stand in front or to one side of the disabled person being helped to or from his chair. It also allows sufficient space for some one in a wheelchair to manoeuvre and position himself so that the fixture is used as a urinal.

Scale of space – People with disabilities



Goldsmith (1976: 122)

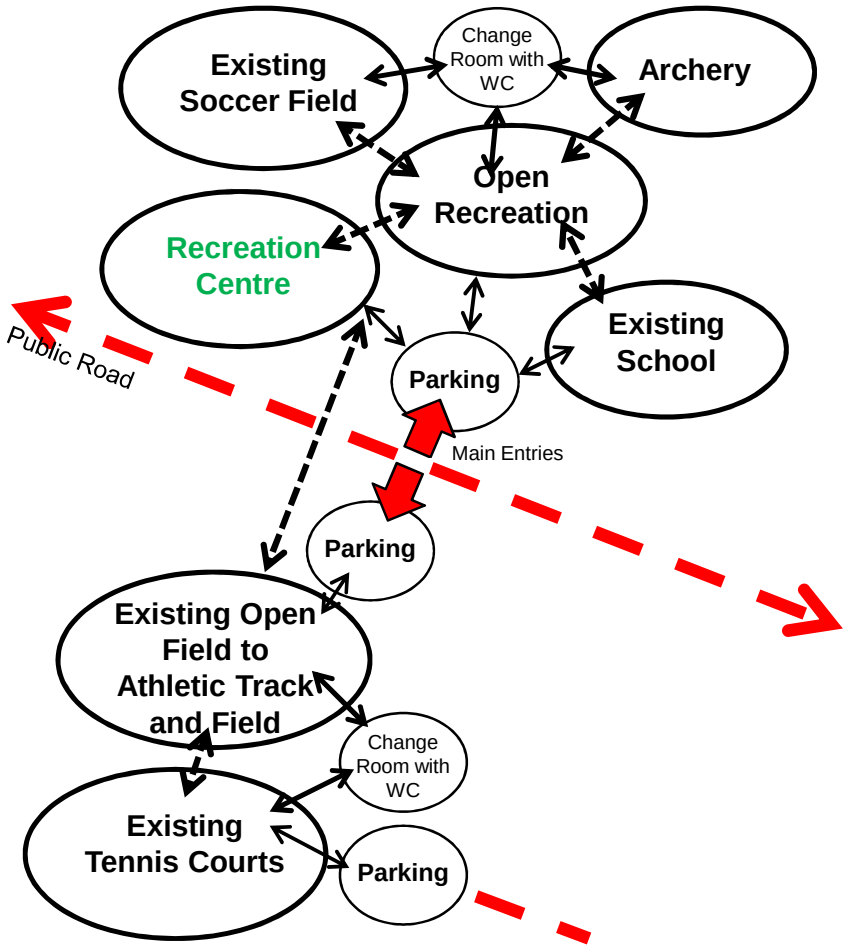
Reach dimensions of wheelchair users

The reach dimensions given in diagram are of comfortable reaches of wheelchair users in static body dimensions. Owing to the flexibility of the human body, with joints permitting a great range of movements, the effective or maximum range of reach is substantially greater than the comfortable reach.

The areas which can be covered with a sweep of the forearm is the comfortable reach, and materials or equipments to be handled on a workspace deemed to be inside it. For disabled people, storage accommodation also deemed to be within comfortable reach.

In general, controls for fixtures and equipments should be within the comfortable reach of a person seated in a wheelchair. Exception may be made in family housing where there will generally be someone other than the wheelchair user available to manipulate controls. In public buildings, controls which may need to be operated by wheelchair users should be within the effective reach of a person seated in a wheelchair.

Program Relationships – Overall Scheme



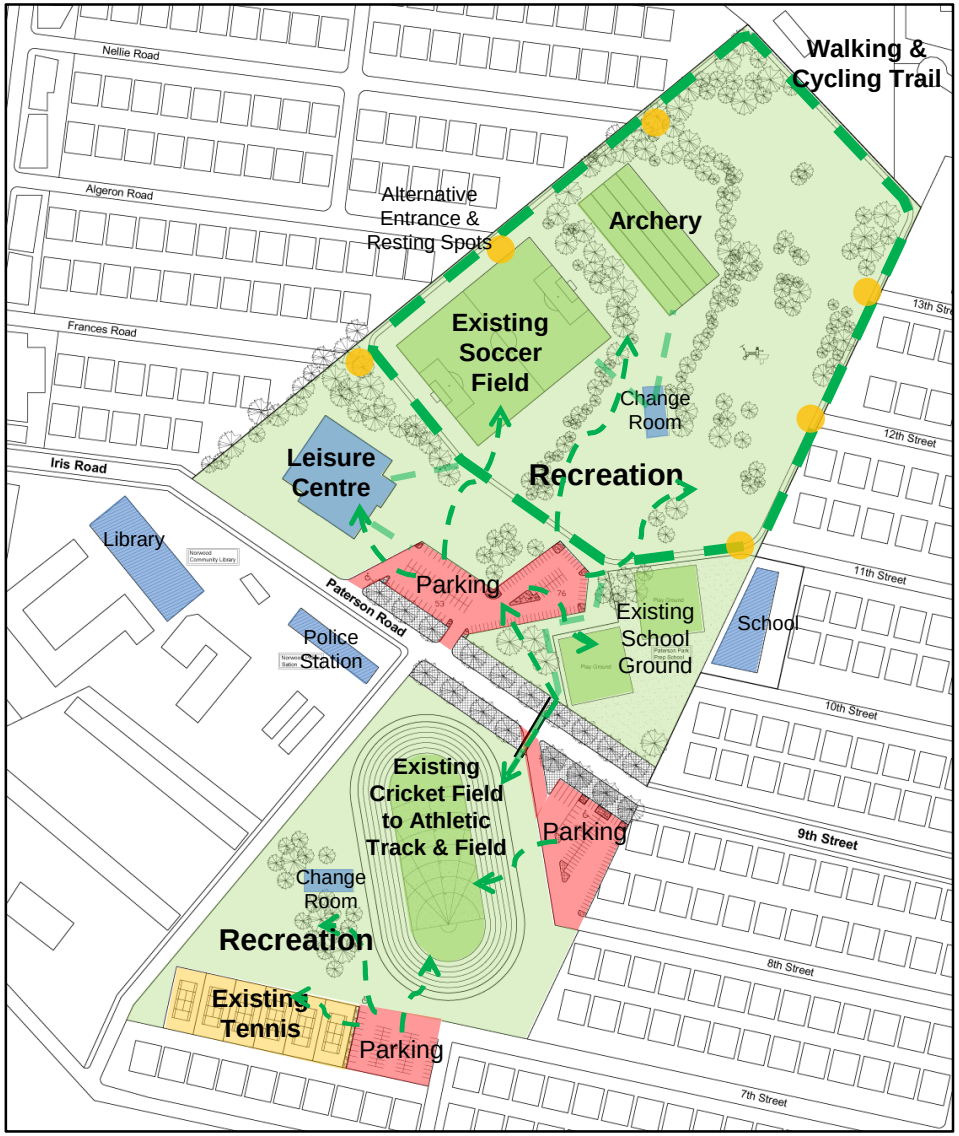
Requirements for Disabled People:

- Parking need to be as close as possible to major destinations. Minimising the travel distances for the disabled people.
- Separate vehicular routes and pedestrian routes, a safer environment for the disabled people. A footbridge with lifts to provide link between north and south portions of the site.
- Provide weather protections and leveled routes to destination, and ground surface for these routes must be non-slip and safe to use.
- Provide resting places along the routes to destinations.
- Clear signposting indicates directions. Simple and straight movement lines, avoid unnecessary change of directions and circulations.
- Ramp must be used if change of ground surface level is absolute necessary.

Requirements for Safer Recreation Park:

- Enable residents and recreational open space users to survey the public area.
- More activities to attract more users.
- Maintain visual permeability through the site – passive surveillance.
- Recreational spaces need to function like a central hub for various sport venues.
- Use appropriate landscaping and lighting to increase surveillance.
- To create an image of of a clean and legible, aesthetically pleasant and interesting open recreational space.

Conceptual Site Plan



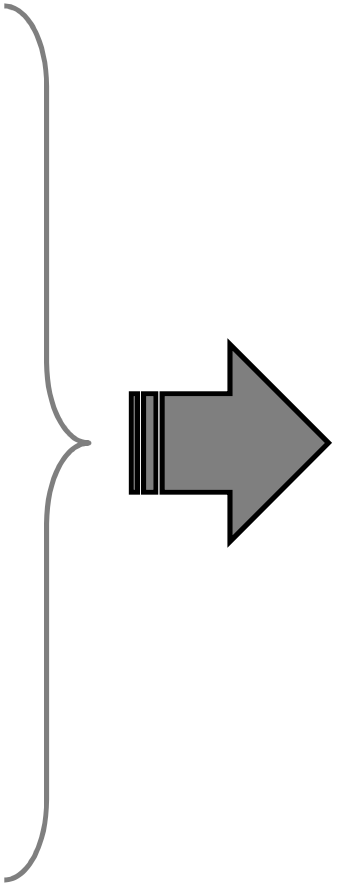
Site Plan

6.2.3 Programs – Recreation Centre

Recreation Centre

Program Items:

- **Reception**
- **Administrative Office**
- **Café**
  - Kitchen
- **Change Facility**
  - Male
  - Female
- **Swimming Pool**
- **Spa**
- **Multi-Sports Hall** } **Mechanical Service Area**
  - Basketball Court
  - Table Tennis
  - Badminton
  - Function Venue
  - Equipment Storage
- **Fitness Training**
- **Multi-Purpose Room**
  - Dance
  - Yoga
- **Physiotherapy Clinic**



Program Grouping:

1. Sport Programs

Swimming
Multi-Sports Hall
Fitness Training

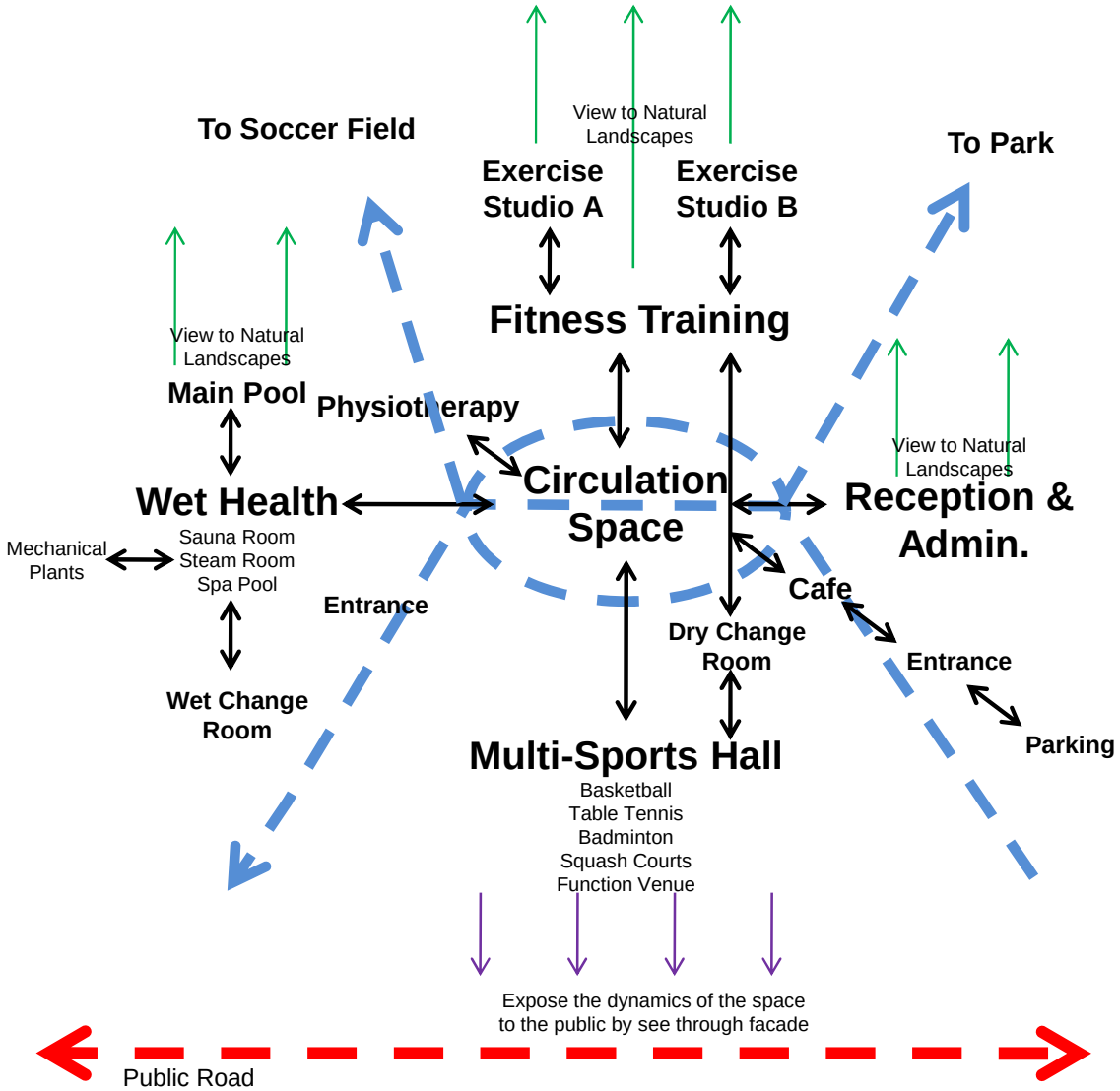
2. Recreation Programs

Cafe
Sauna
Archery
Soccer Filed
Tennis Courts
Parking
Change room
Multi-Purpose Room

3. Others

Entrance Foyer
Reception
Administrative Office
Change Facility
Mechanical Service
Childcare Area
Physiotherapy Clinic

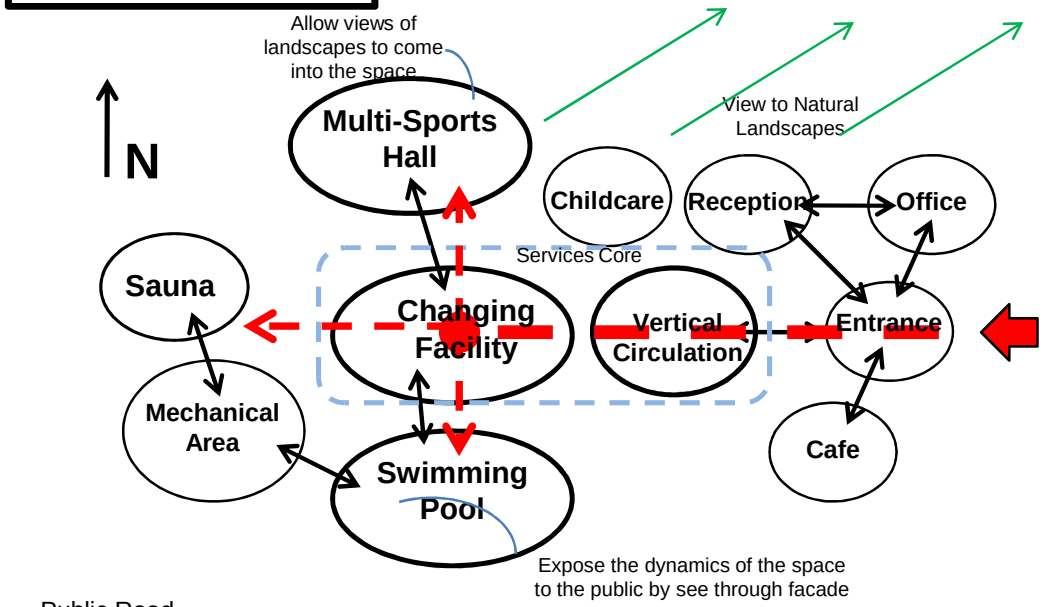
Program Relationships – Recreation Centre

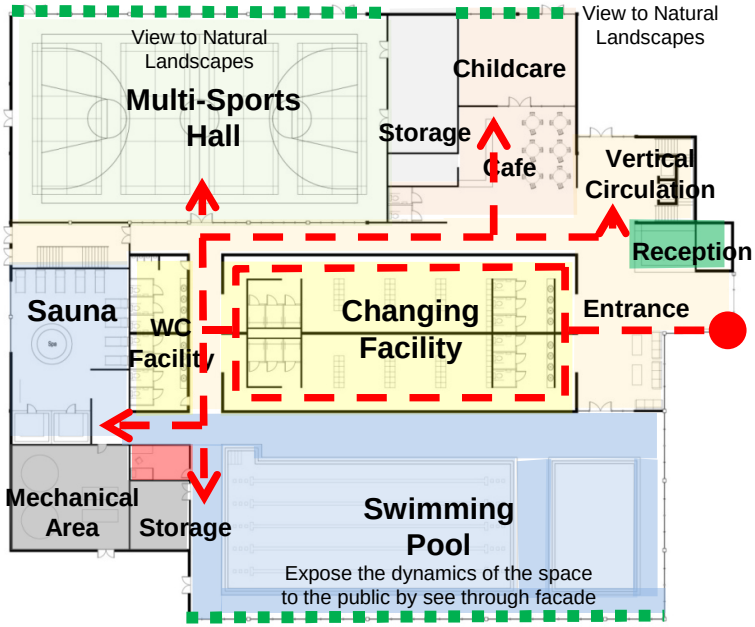


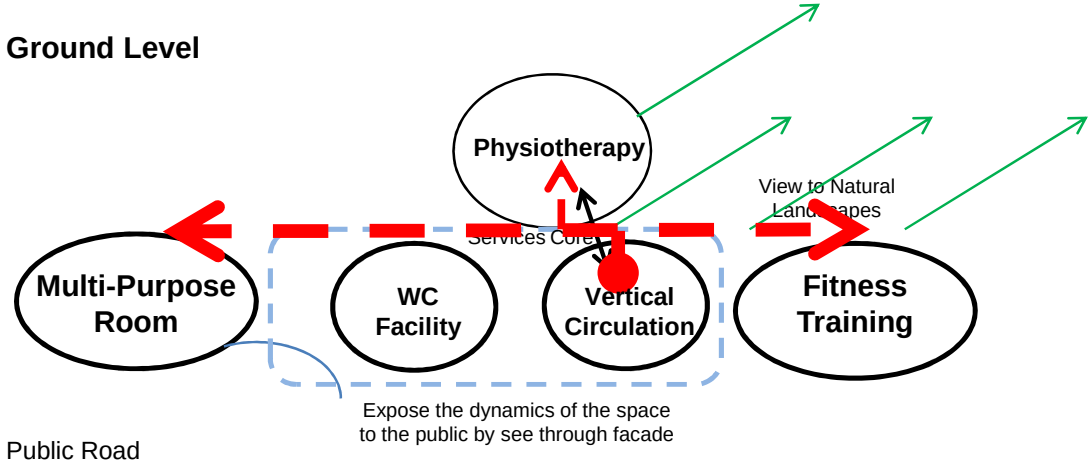
Requirements for Disabled People:

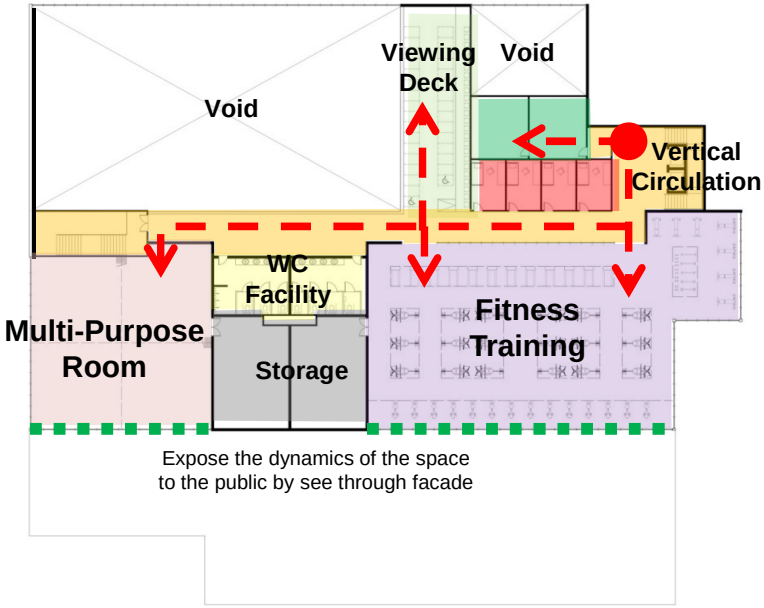
- Entrance to the building should be easy to negotiate, eg, ramped access and automated door. Internal doors must give easy opening and closing.
- Simple and straight movement lines, avoid unnecessary change of directions and circulations.
- All areas of the building must be accessible to wheelchair users, ie, leveled. Where variations in level are needed ramps should be incorporated and gradient must not ne more than 1:12.
- Vertical circulation between floors must be by means of a lift. The dimension must accompany wheelchair.
- All facilities and equipments must be reachable by disabled people, special attentions to reachable heights and required maneuver spaces for wheelchair users .
- Passageways must provides easy movements for wheelchair users.
- Floor surface should be non-slip, eg, carpet. In the case of tiled floors, eg, showers in change room, larger joint between tiles may provide a measure of friction to counter slipping. Alternatively, ribbed or studded rubber tiles may be used.
- The entire building should be clearly signposted at all time. Sign plates should be placed, for example, directional signs should be placed at focal points on main traffic routes.

Building Concept 1





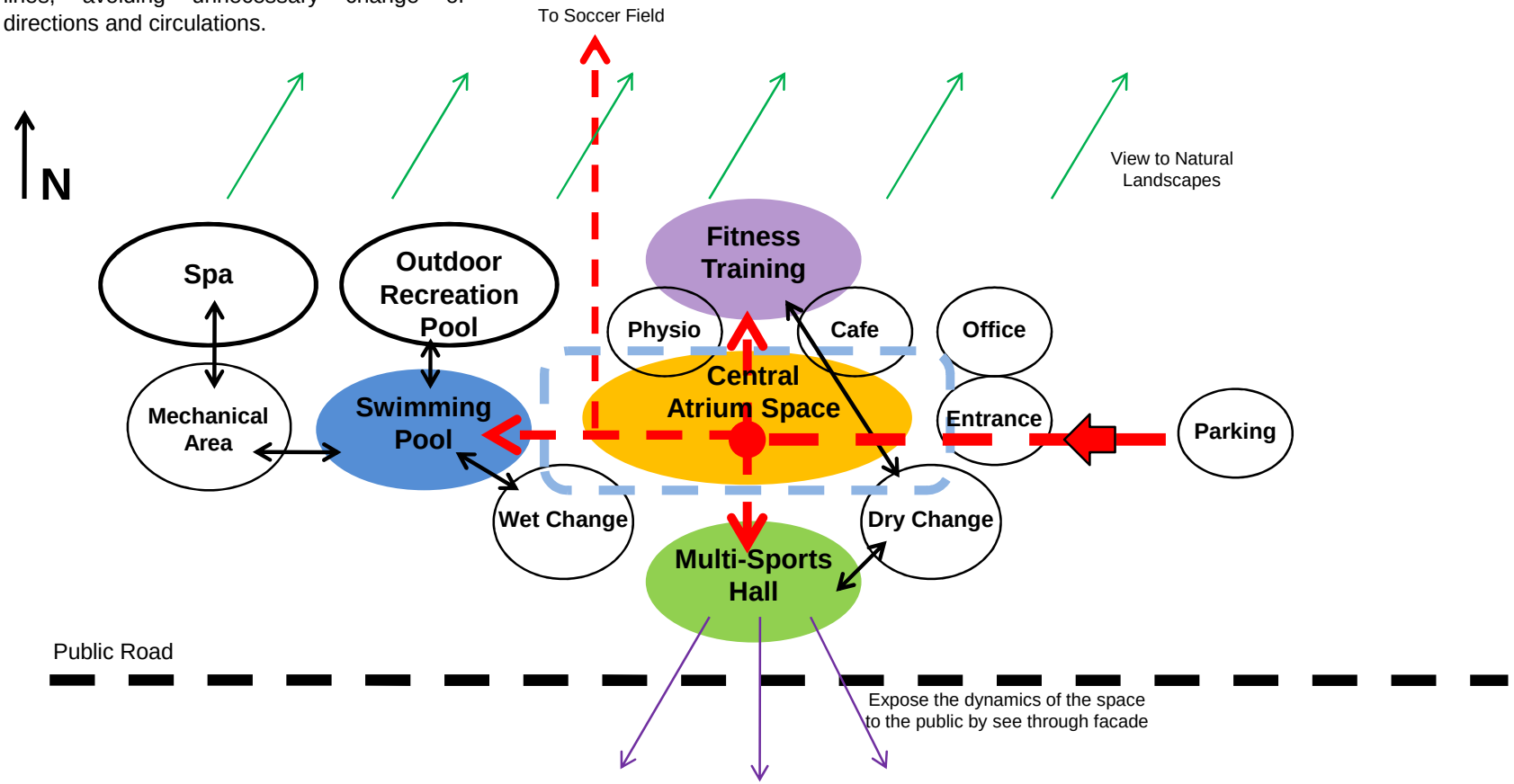


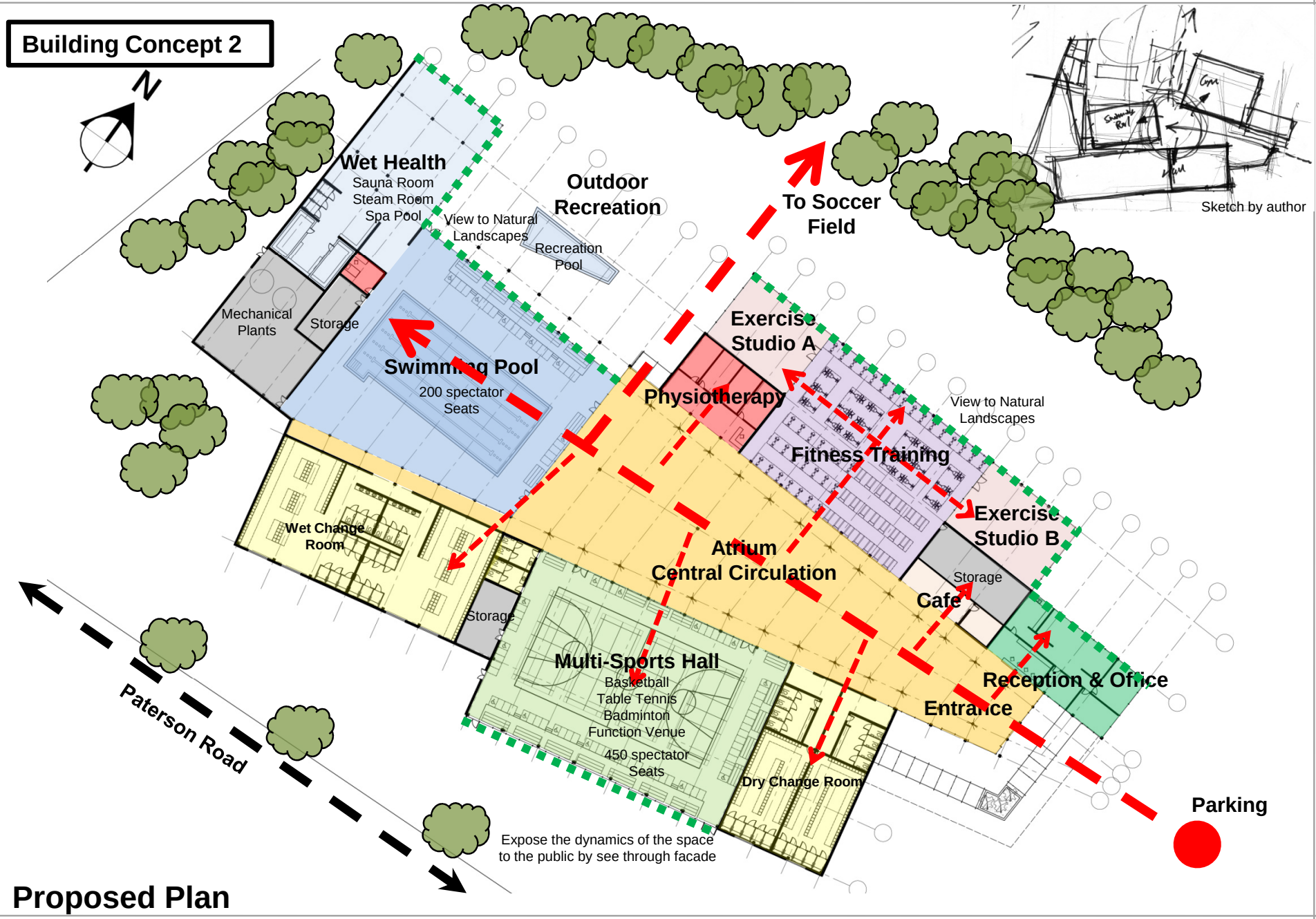


Building Concept 2

Improvements from concept 1:

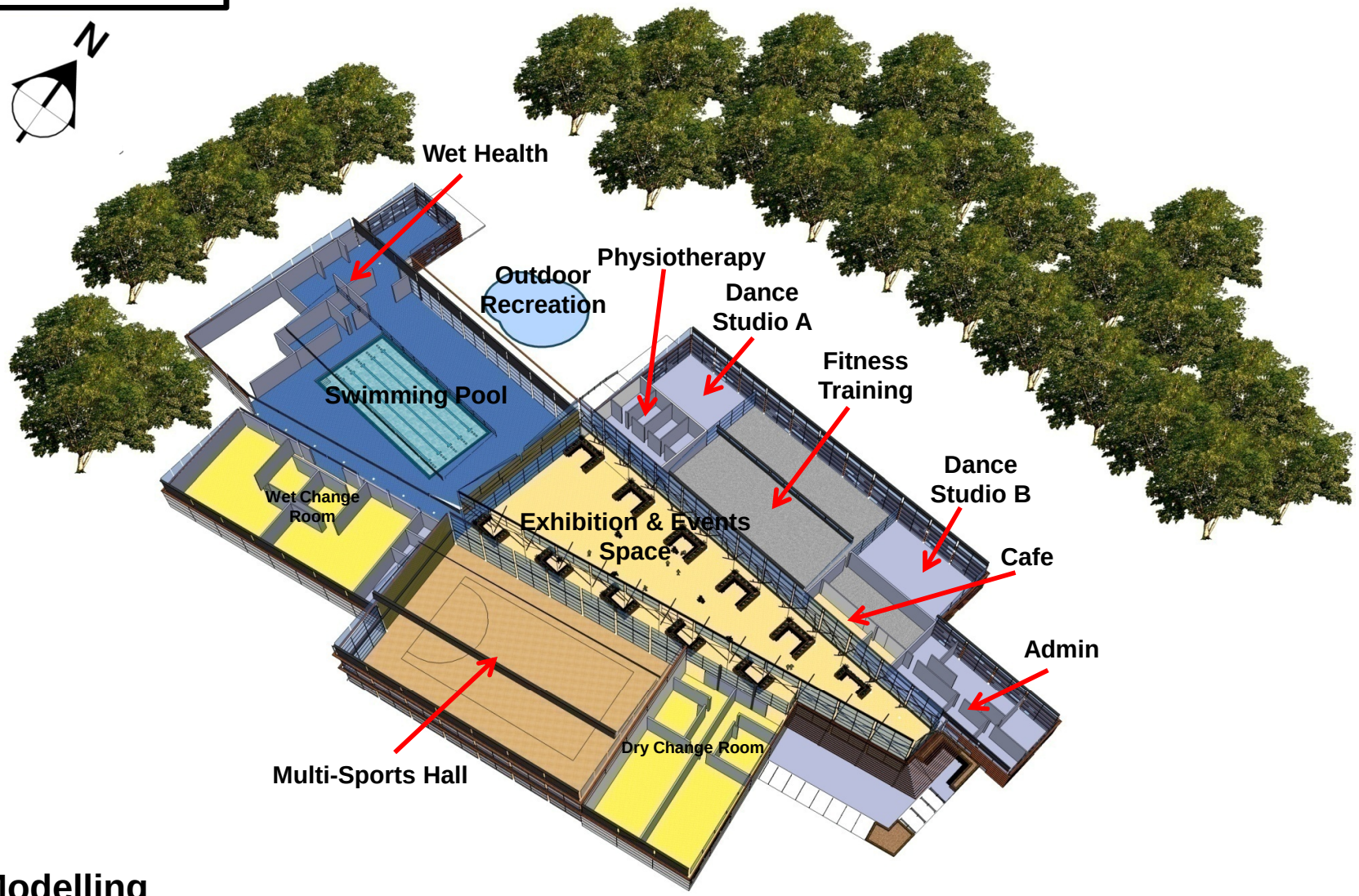
- Single story building that eliminate problem of vertical circulation for people with disabilities. It also allows each programs to engage more with one another, and much more simpler escape route in case of emergency.
- A simpler and straight forward movement lines, avoiding unnecessary change of directions and circulations.
- Provide a more clear line of sight, allows for easy identification of destinations and engagements with natural landscapes.
- More integration of inside and outside spaces.





Proposed Plan

Building Concept 2



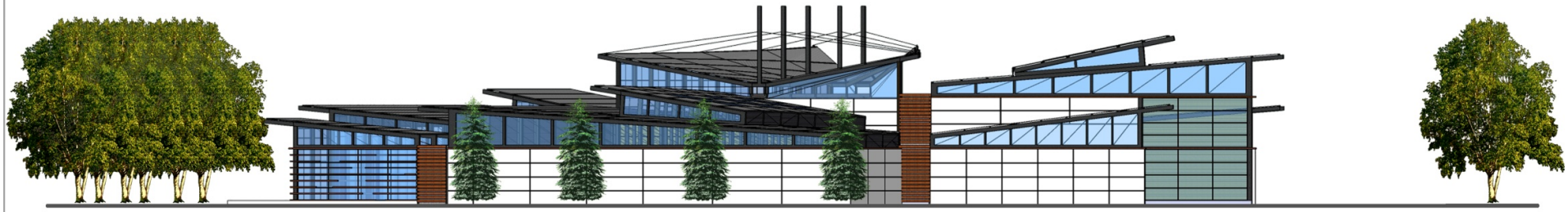
3D Modelling

Building Concept 2

North Elevation

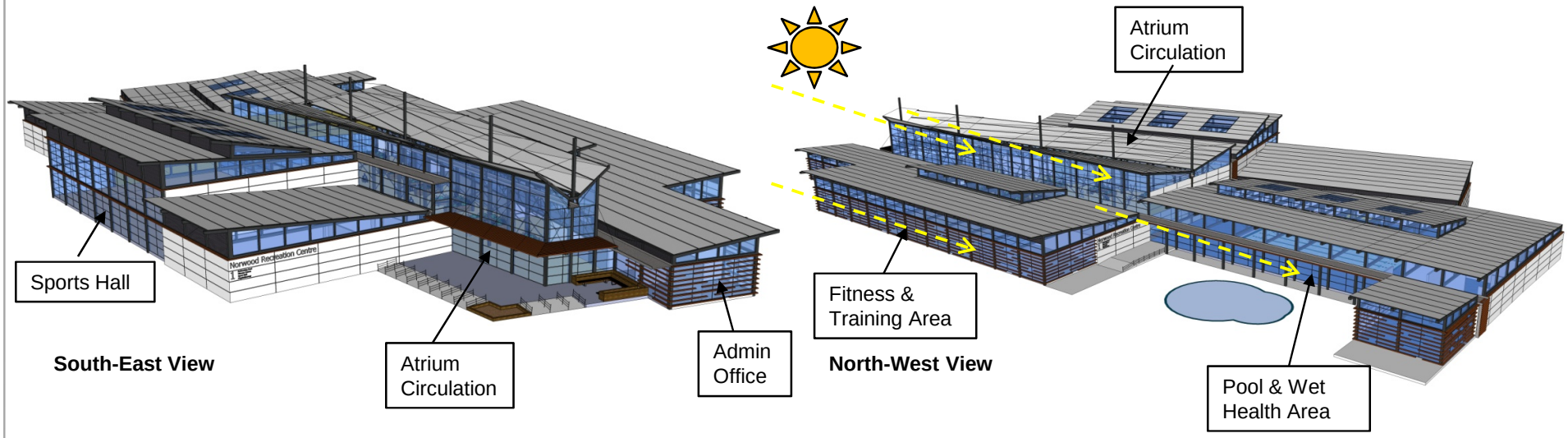
East Elevation

South Elevation



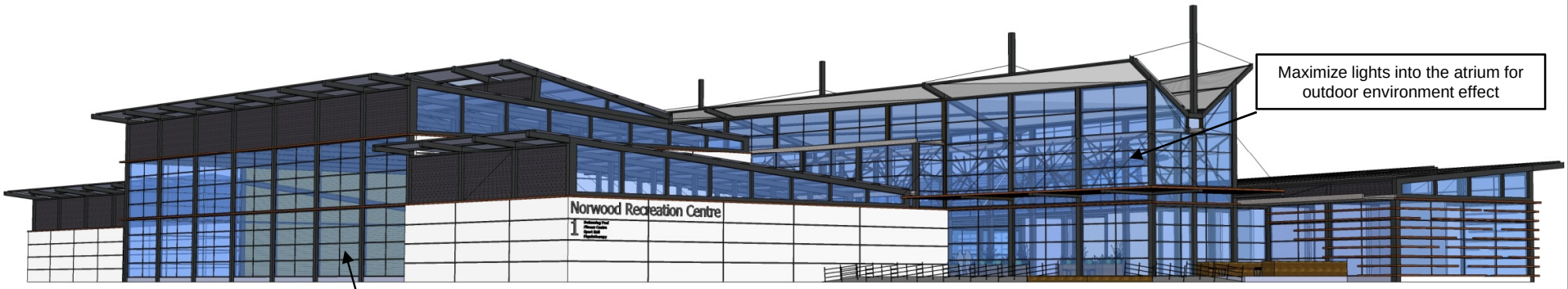
West Elevation

Building Concept 2



South-East View

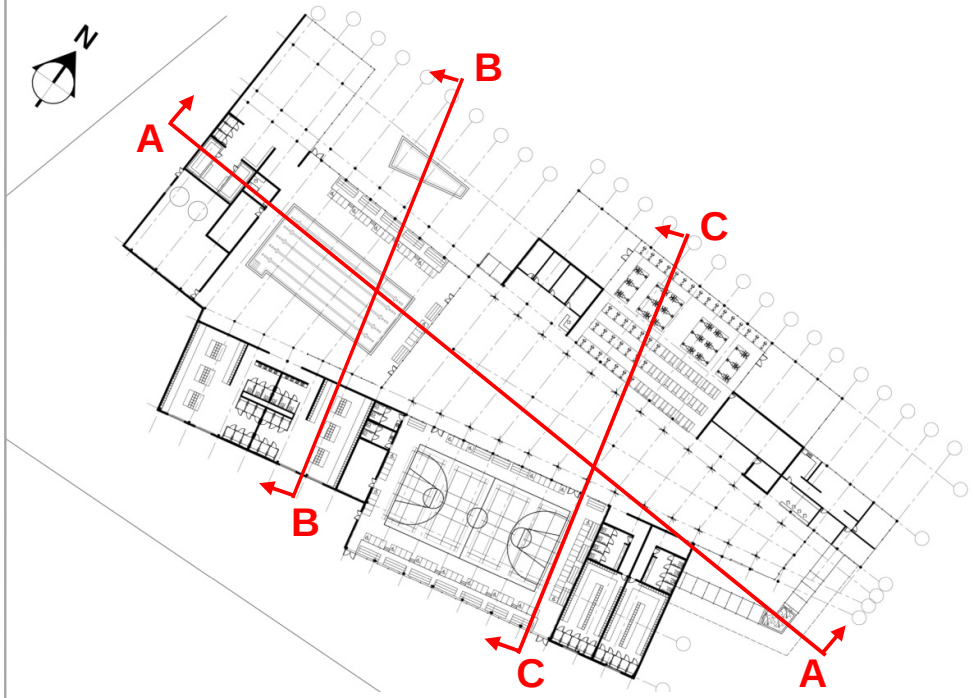
North-West View

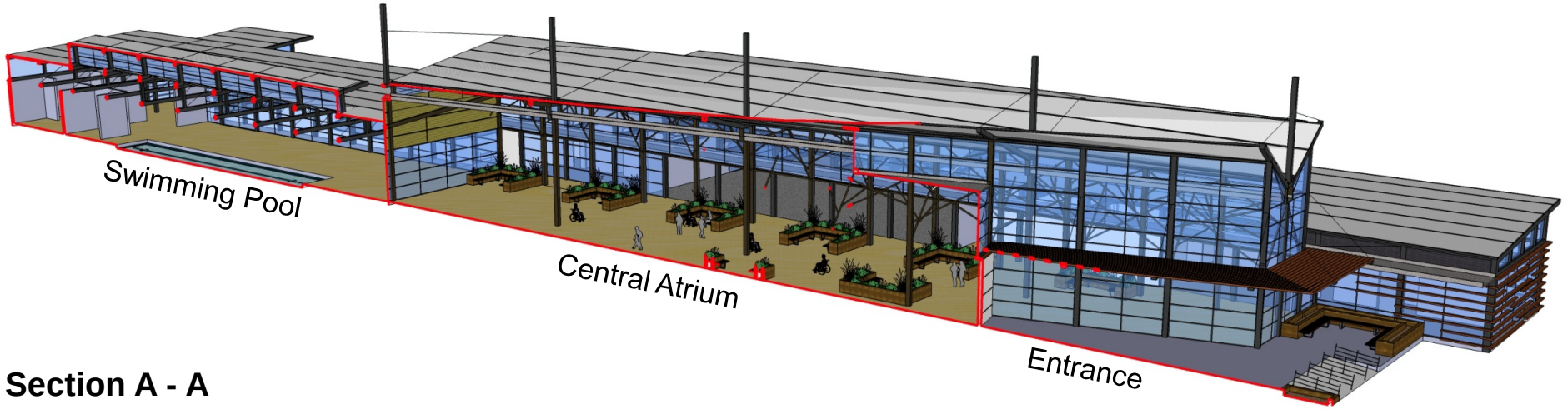


View from the street

3D Modelling

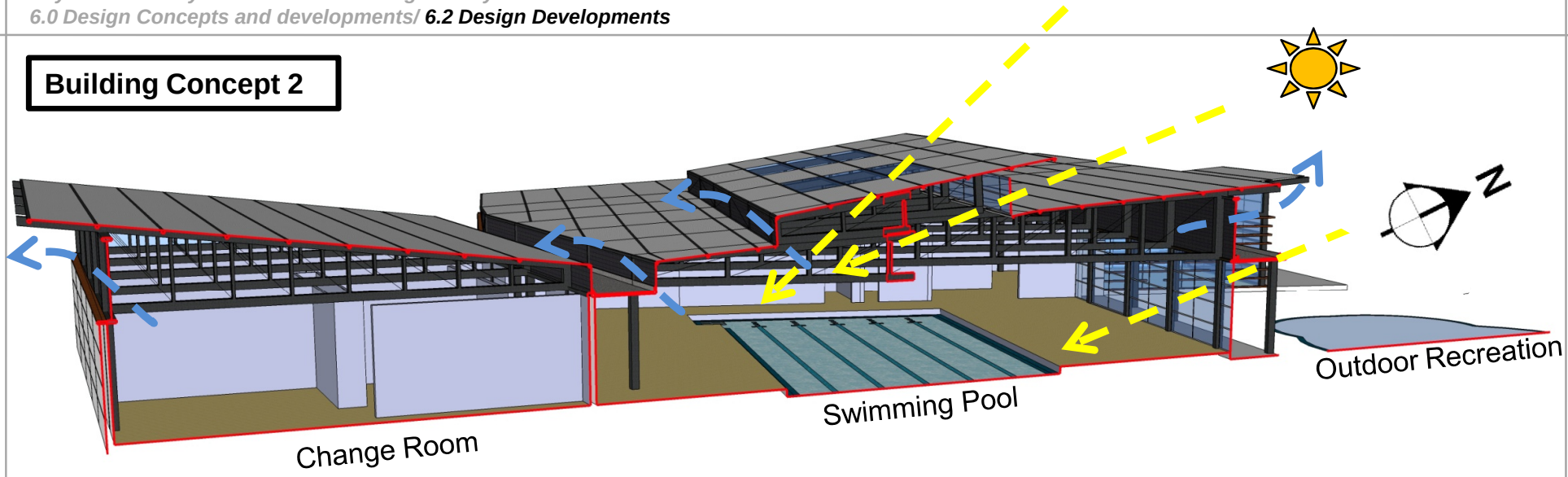
Building Concept 2





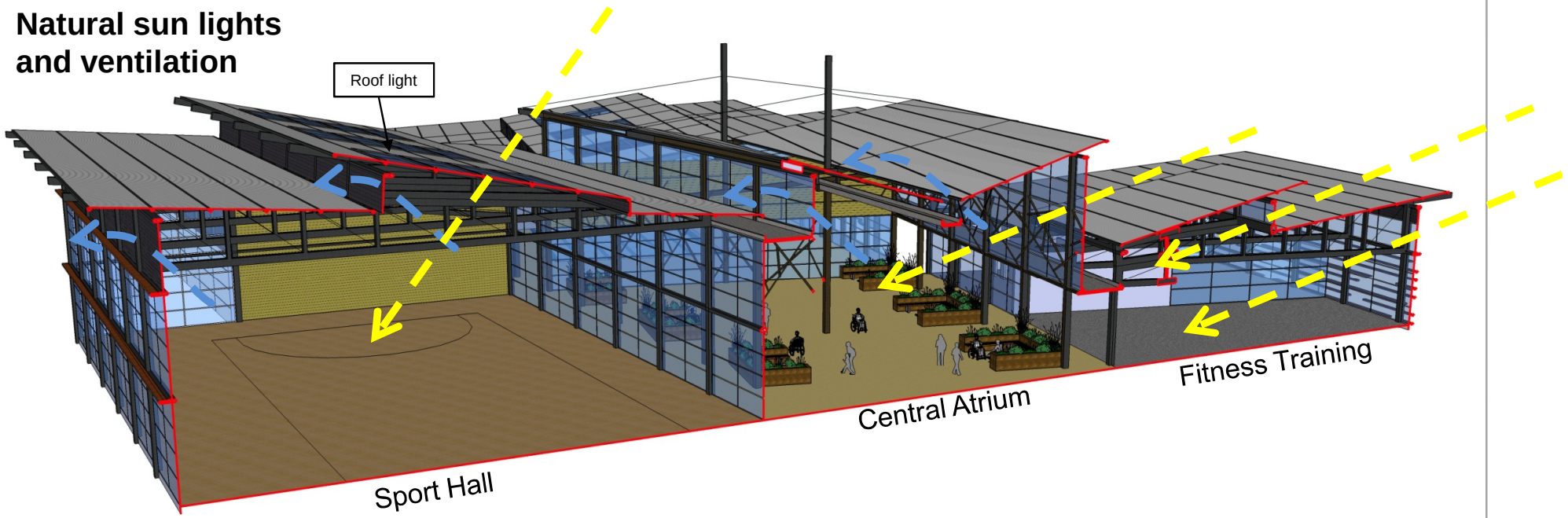
Section A - A

Building Concept 2



Section B - B

Natural sun lights and ventilation

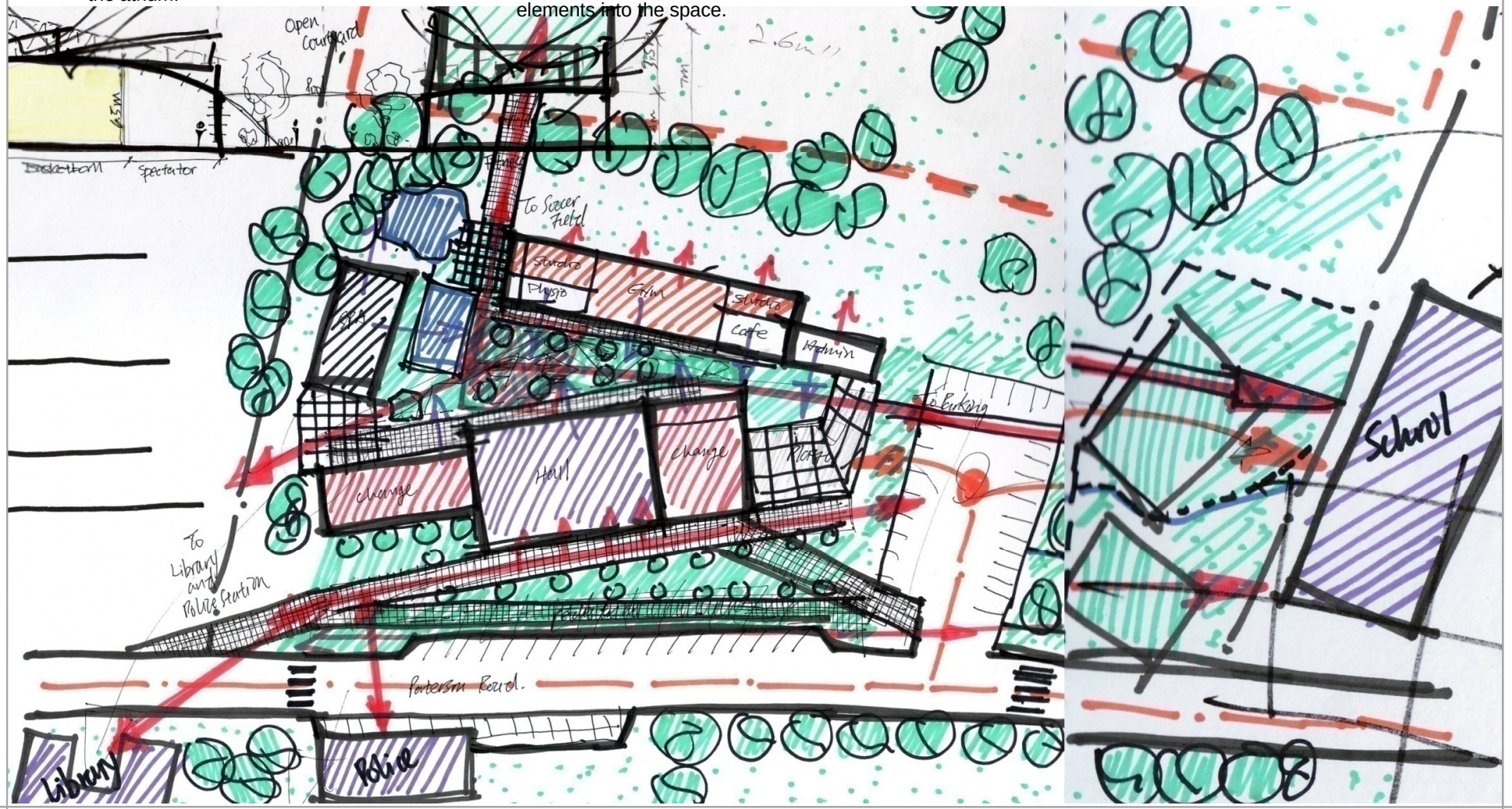


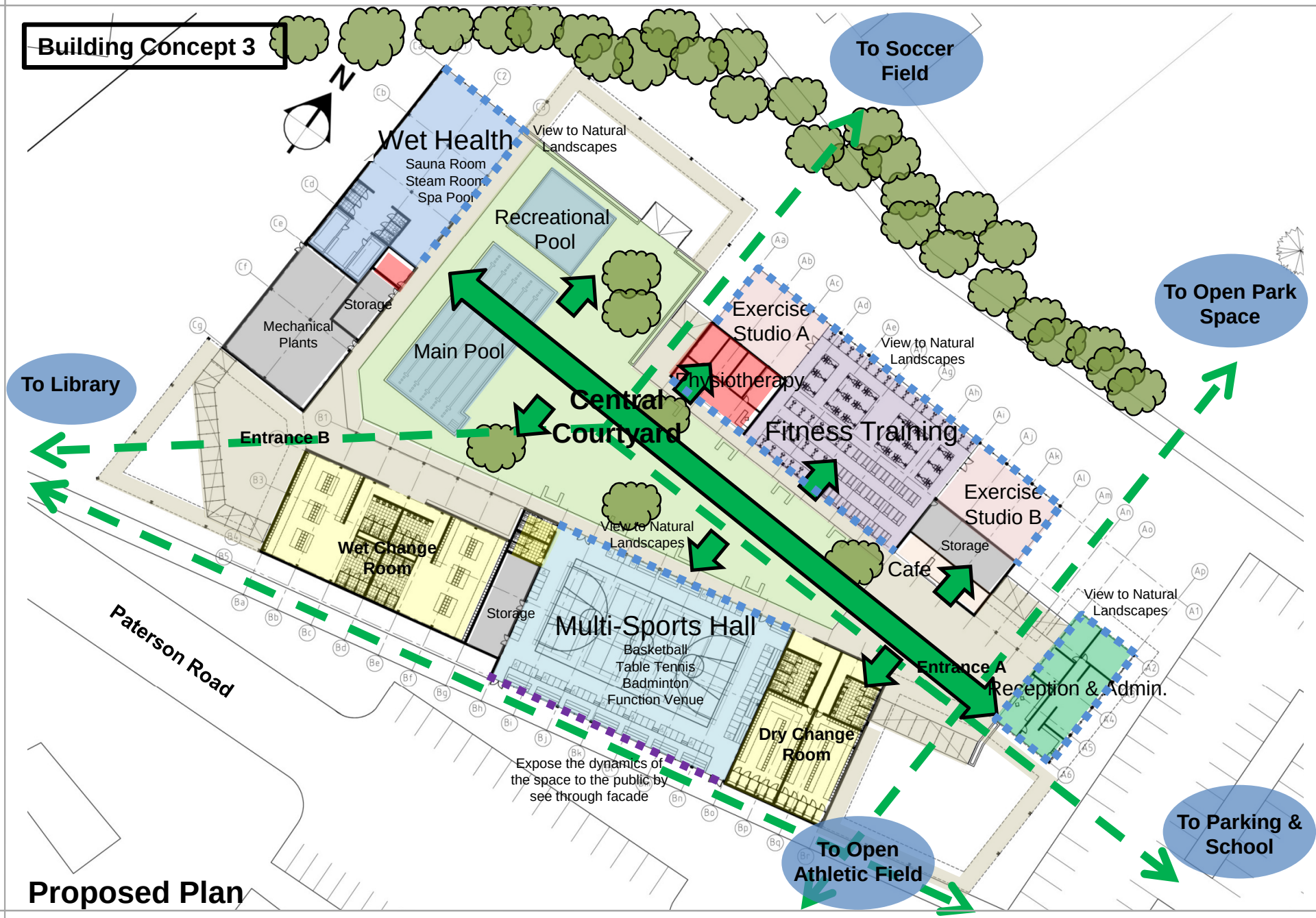
Section C - C

Building Concept 3

Improvements from concept 2:

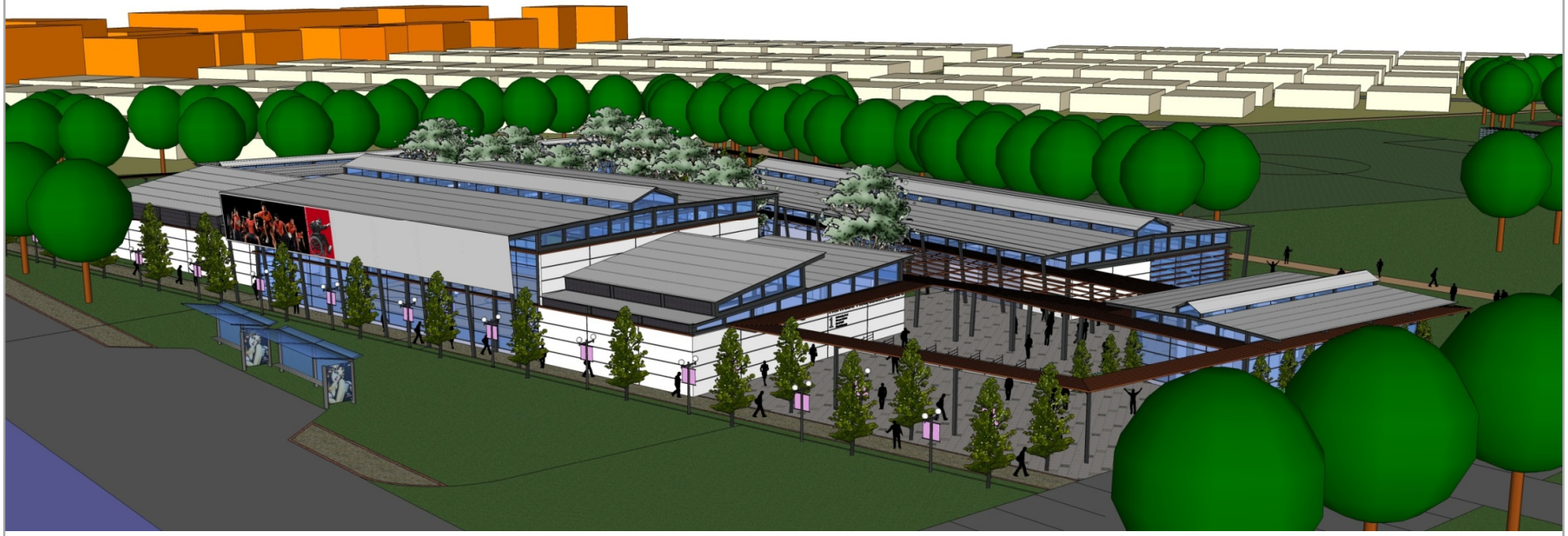
- From concept 2, the scale of the building seems too overwhelming by its triple volume atrium space and it actually intimidating its users. Therefore, I removed the atrium.
- My study leader then suggested if the big idea about the atrium space is to allow for maximum sun light and creating a sense of outdoor environment for social interaction, why not make this space into a real open **courtyard** space and thus bring in natural landscape elements into the space.
- To further enhance the idea of interacting with natural landscapes (light, air and greens), the skins of the building are able to open up, provide direct interaction between users and landscapes.





Proposed Plan

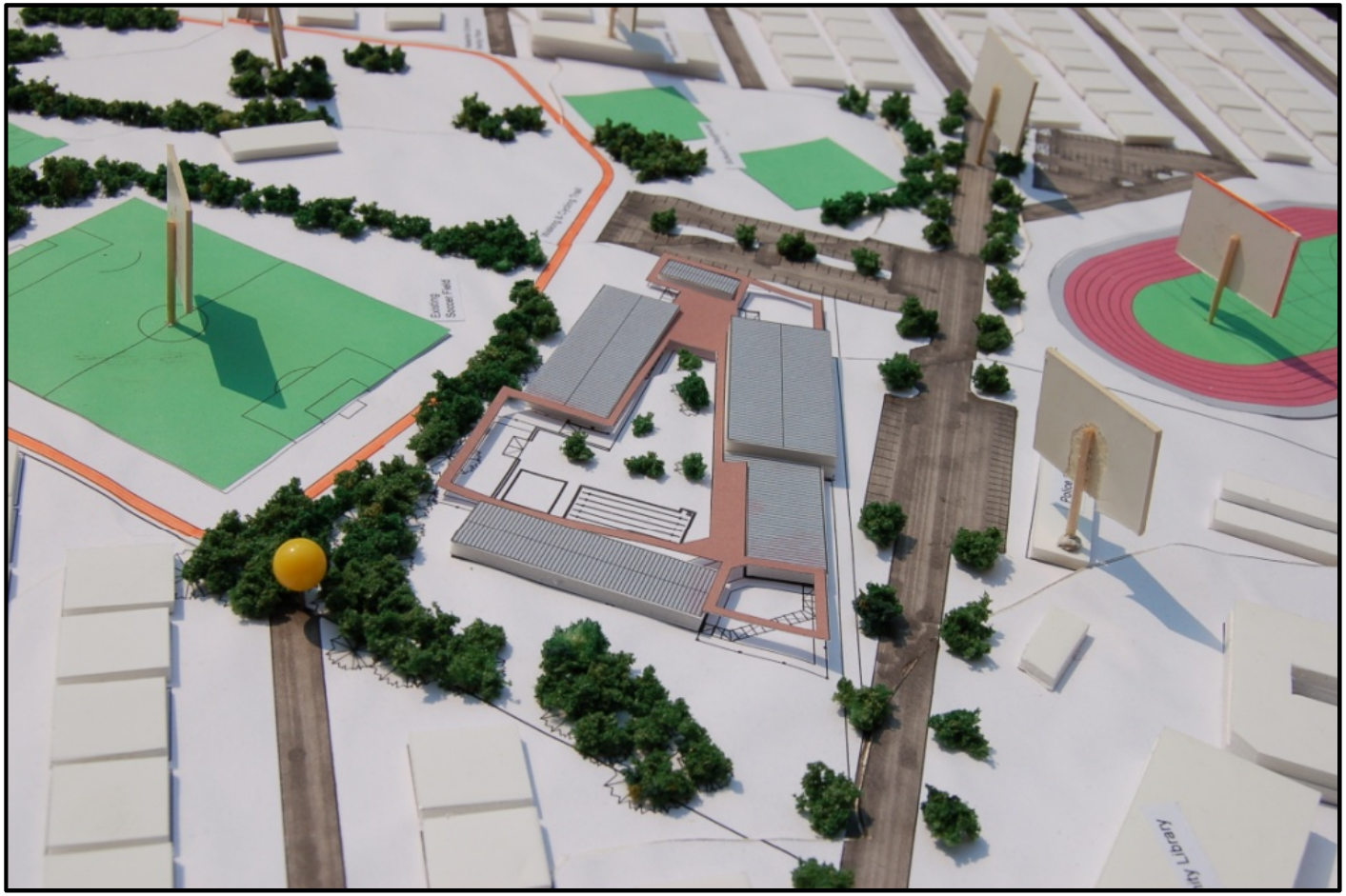
Building Concept 3



Cool air being drawn in through ground level openings and hot air expelled through ventilation louver at the roof.

Section

Building Concept 3

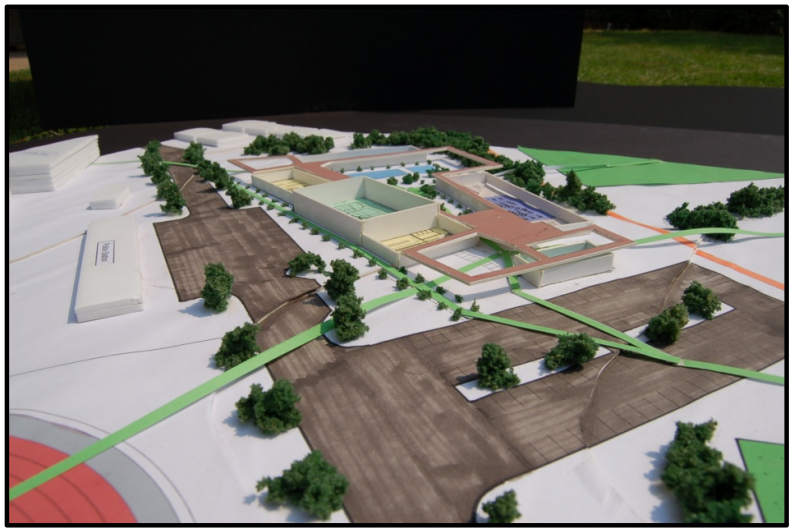


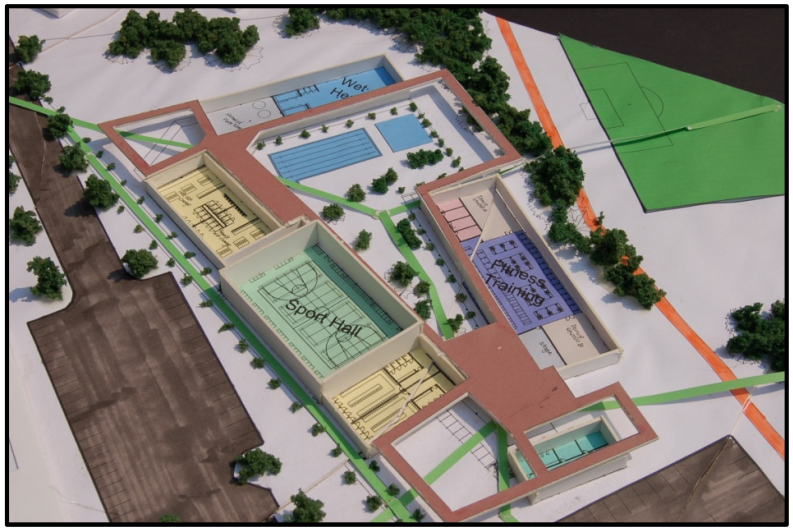
Conceptual Model

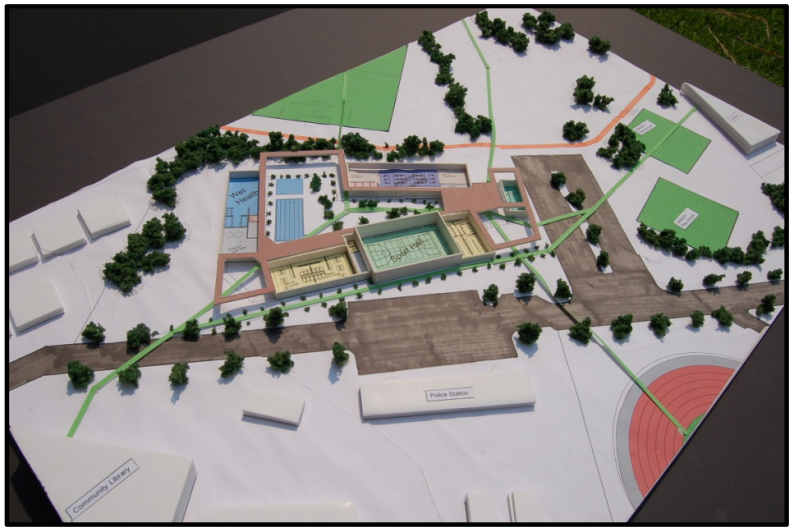
Building Concept 3

Conceptual Model

Building Concept 3







Conceptual Model

Final Design

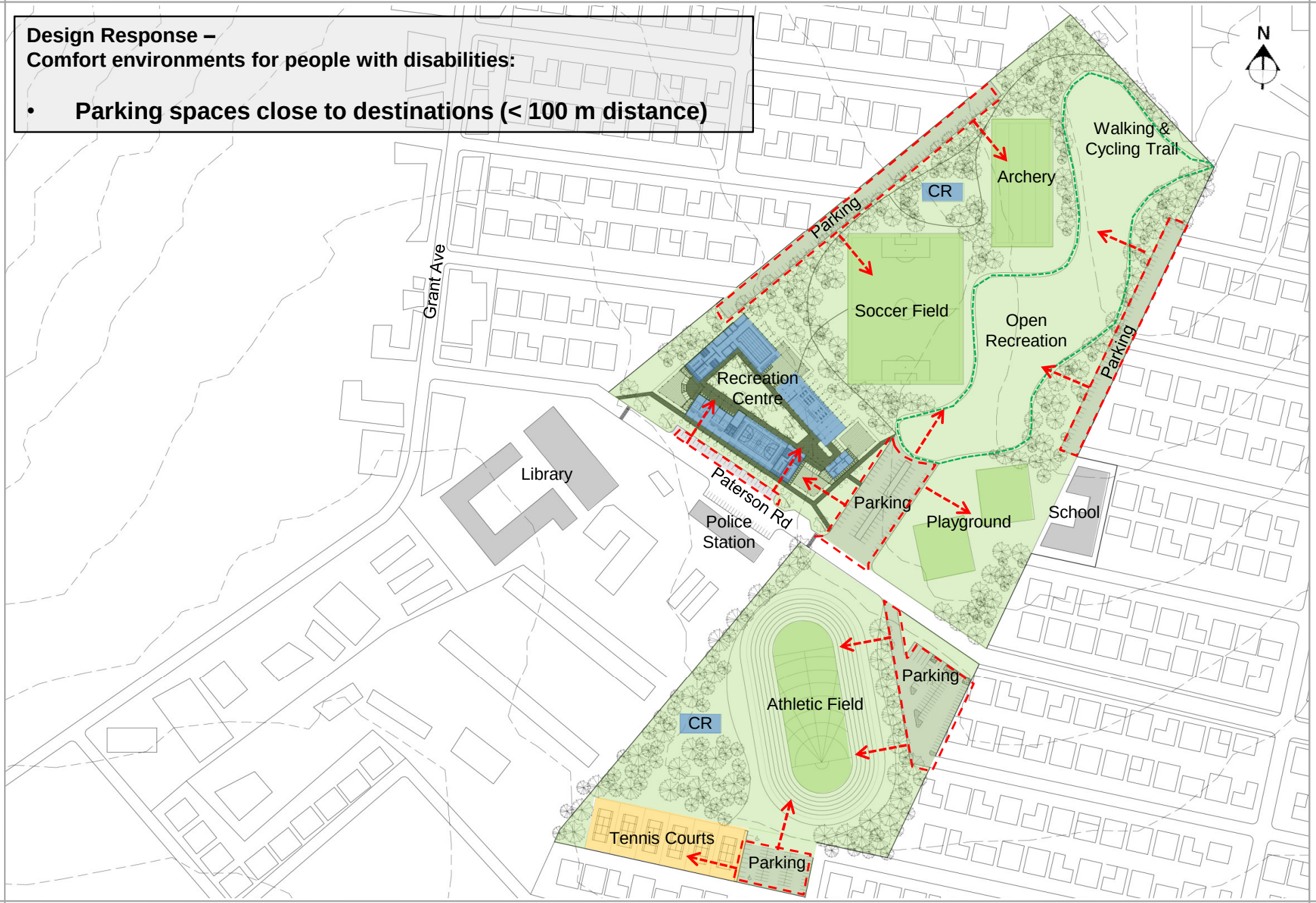
7.0


N
Walking &
Cycling Trail
Archery
CR
Parking
Grant Ave
Soccer Field
Open
Recreation
Parking
Recreation
Centre
Paterson Rd
Library
Parking
Playground
School
Police
Station
Parking
Athletic Field
CR
Tennis Courts
Parking

Site Plan

Design Response –
Comfort environments for people with disabilities:

- **Parking spaces close to destinations (< 100 m distance)**



Design Response –
Comfort environments for people with disabilities:

- **Intermediate resting places along circulations (seating @ maximum of 50m intervals and natural banks)**

Design Response –
Creating a safer public park:

- **Accessibilities for publics to use the space**

Problem:
Totally isolated from the surrounding residential area (become potential crime spots), except Paterson Road entrance, all other roads leads to the park have been blocked off.

Image by author

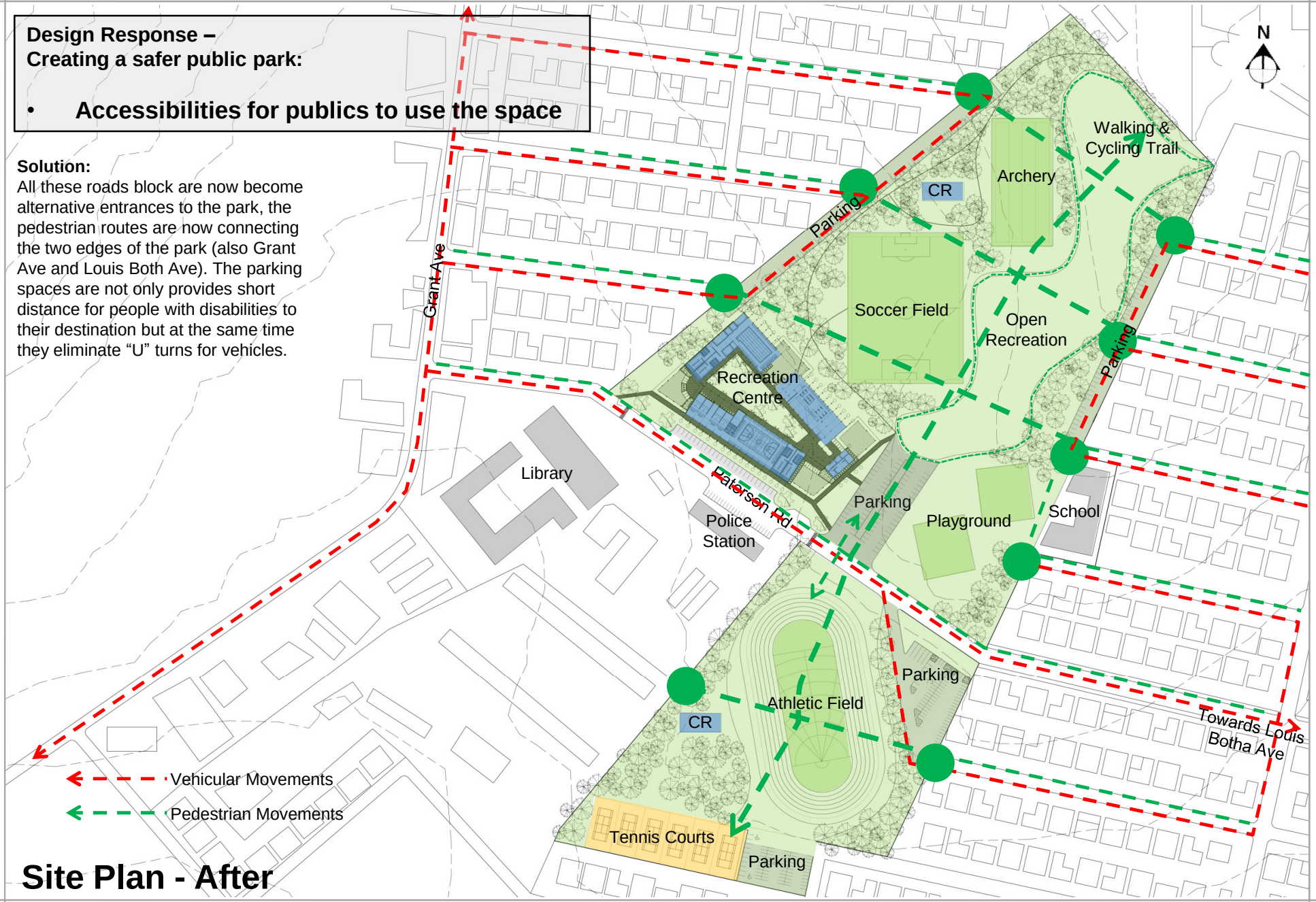
Adjacent residence and pedestrian have no access to the park at all and vehicles have to do "U" turn on a narrow street at these dead ends.

Site Plan - Before

Design Response –
Creating a safer public park:

- **Accessibilities for publics to use the space**

Solution:
All these roads block are now become alternative entrances to the park, the pedestrian routes are now connecting the two edges of the park (also Grant Ave and Louis Both Ave). The parking spaces are not only provides short distance for people with disabilities to their destination but at the same time they eliminate “U” turns for vehicles.



Site Plan - After

Design Response –
Creating a safer public park :

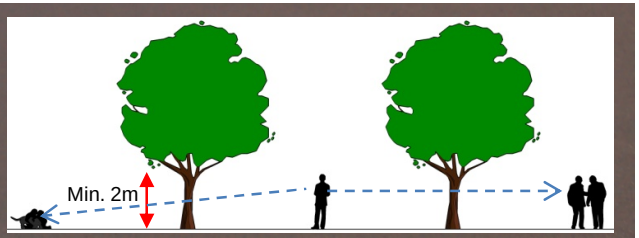
- **Activity generators**

The perception of a space as safe is related to the vitality and active nature of the space. Populated spaces often attract more people and add 'eyes' to the public space. Active space can be encouraged through activity such as increasing recreational facilities to a park.

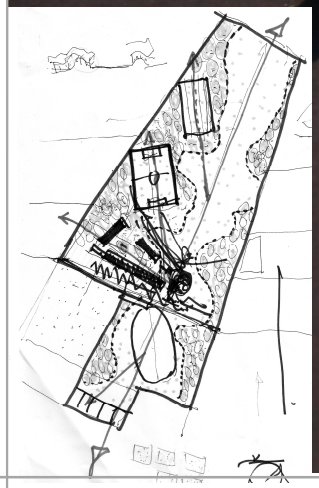
Public's eyes increase the natural surveillance, eliminate blind spots that could become potential crime opportunities.

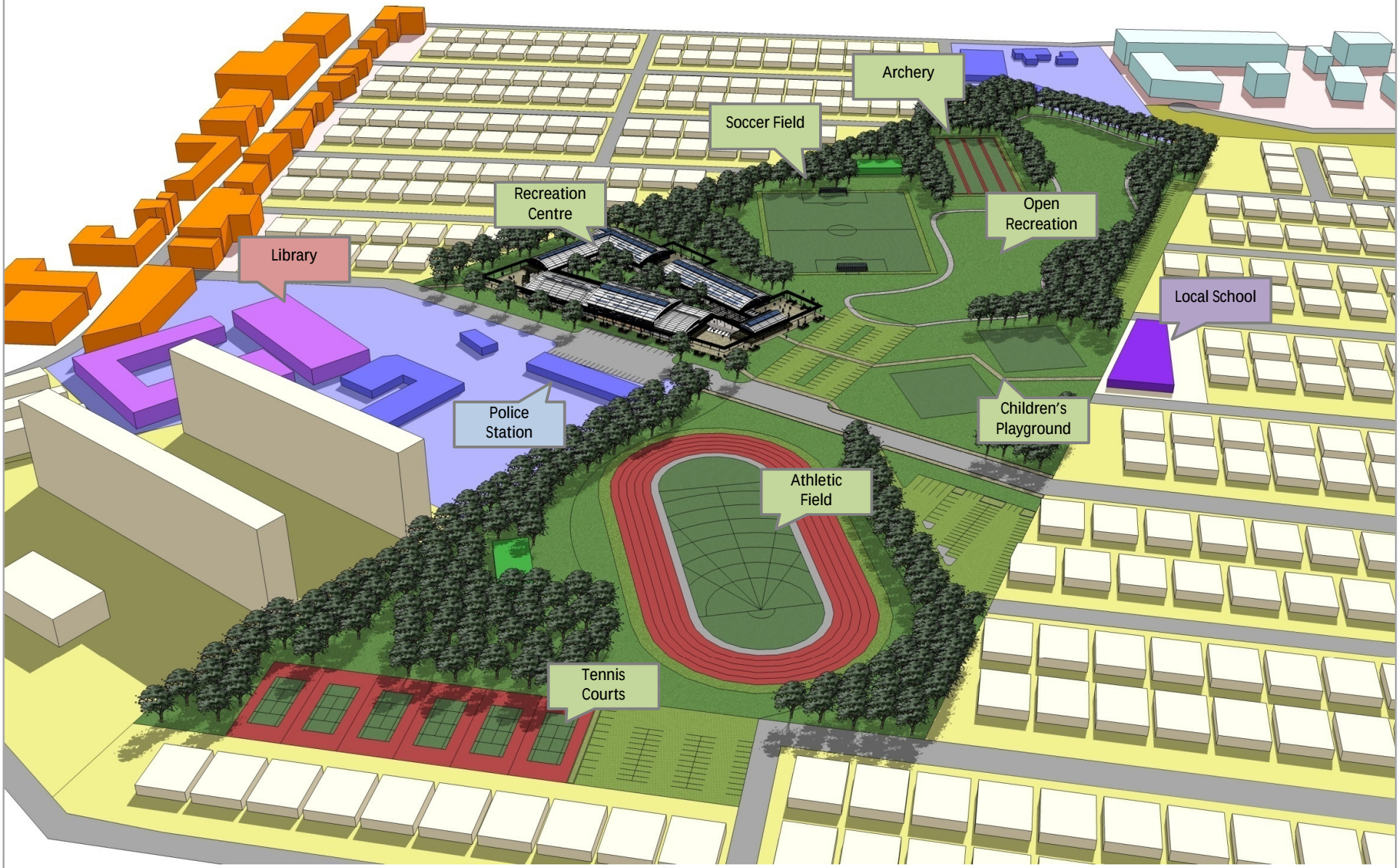
Design Response –
Creating a safer public park :

- **Clear visibility and sight lines**



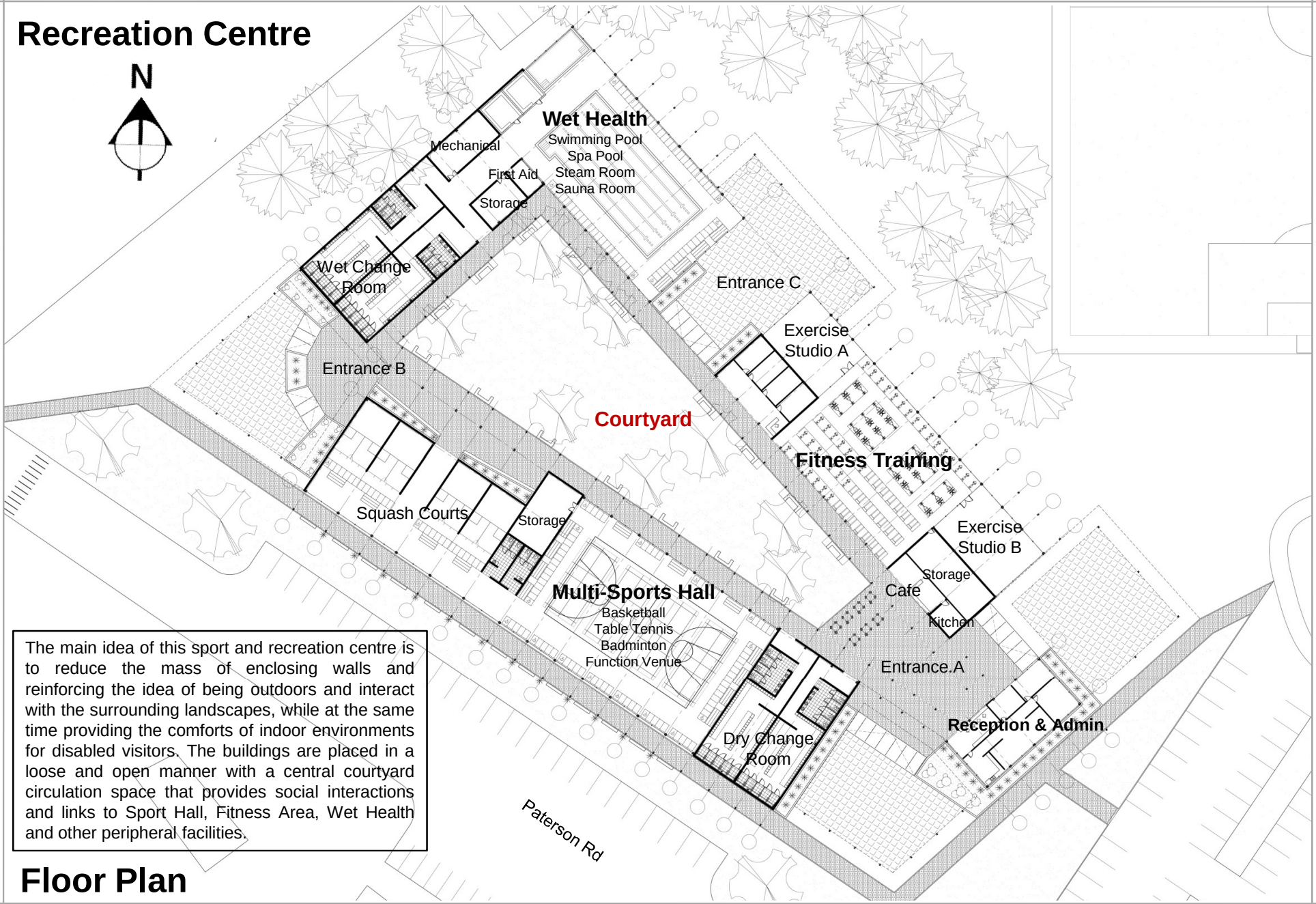
Tree species should be selected so that the branches grows out at least 2m above the ground. Bushes should be clustered in such a way that it prevents to cause obstruction to visibility or provide hiding spaces.1111





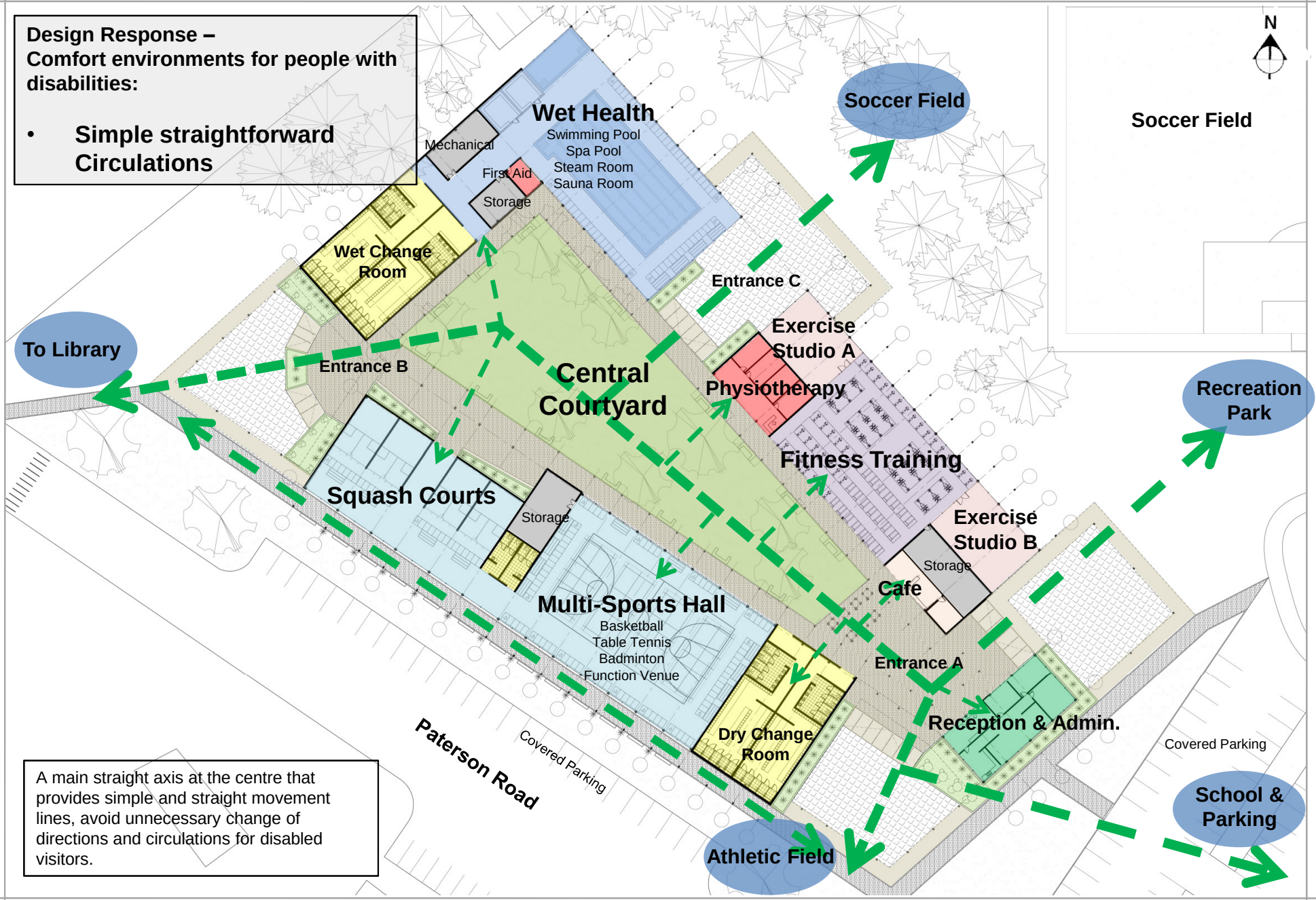
Site Modelling

Recreation Centre



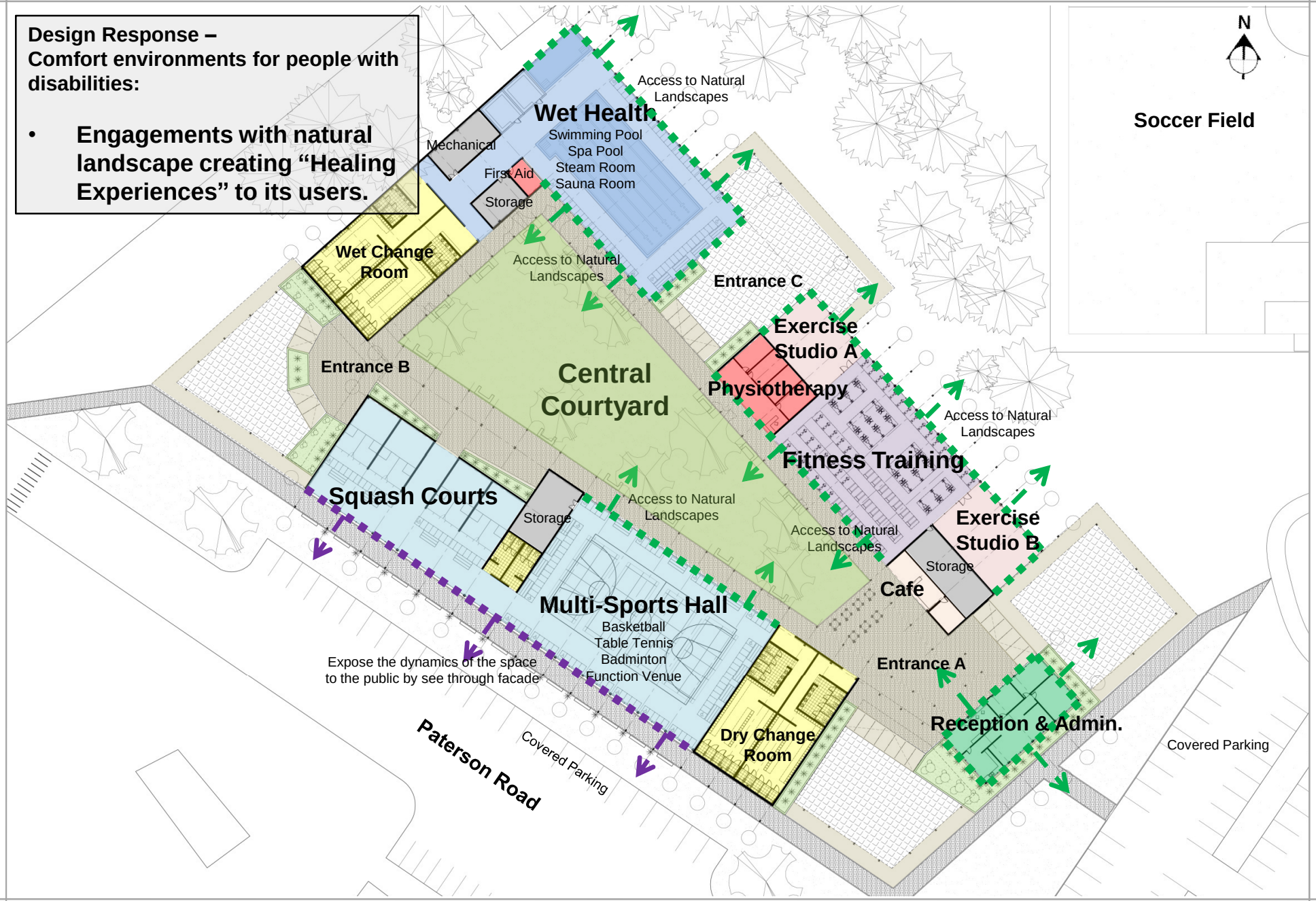
The main idea of this sport and recreation centre is to reduce the mass of enclosing walls and reinforcing the idea of being outdoors and interact with the surrounding landscapes, while at the same time providing the comforts of indoor environments for disabled visitors. The buildings are placed in a loose and open manner with a central courtyard circulation space that provides social interactions and links to Sport Hall, Fitness Area, Wet Health and other peripheral facilities.

Floor Plan


Design Response –
Comfort environments for people with disabilities:
• Simple straightforward Circulations
N
Soccer Field
Soccer Field
Wet Health
Swimming Pool
Spa Pool
Steam Room
Sauna Room
Mechanical
First Aid
Storage
Wet Change Room
Entrance C
Exercise Studio A
Physiotherapy
To Library
Entrance B
Central Courtyard
Recreation Park
Fitness Training
Squash Courts
Storage
Exercise Studio B
Storage
Cafe
Multi-Sports Hall
Basketball
Table Tennis
Badminton
Function Venue
Entrance A
Reception & Admin.
Paterson Road
Covered Parking
Dry Change Room
Covered Parking
School & Parking
Athletic Field
A main straight axis at the centre that provides simple and straight movement lines, avoid unnecessary change of directions and circulations for disabled visitors.

Design Response –
Comfort environments for people with disabilities:

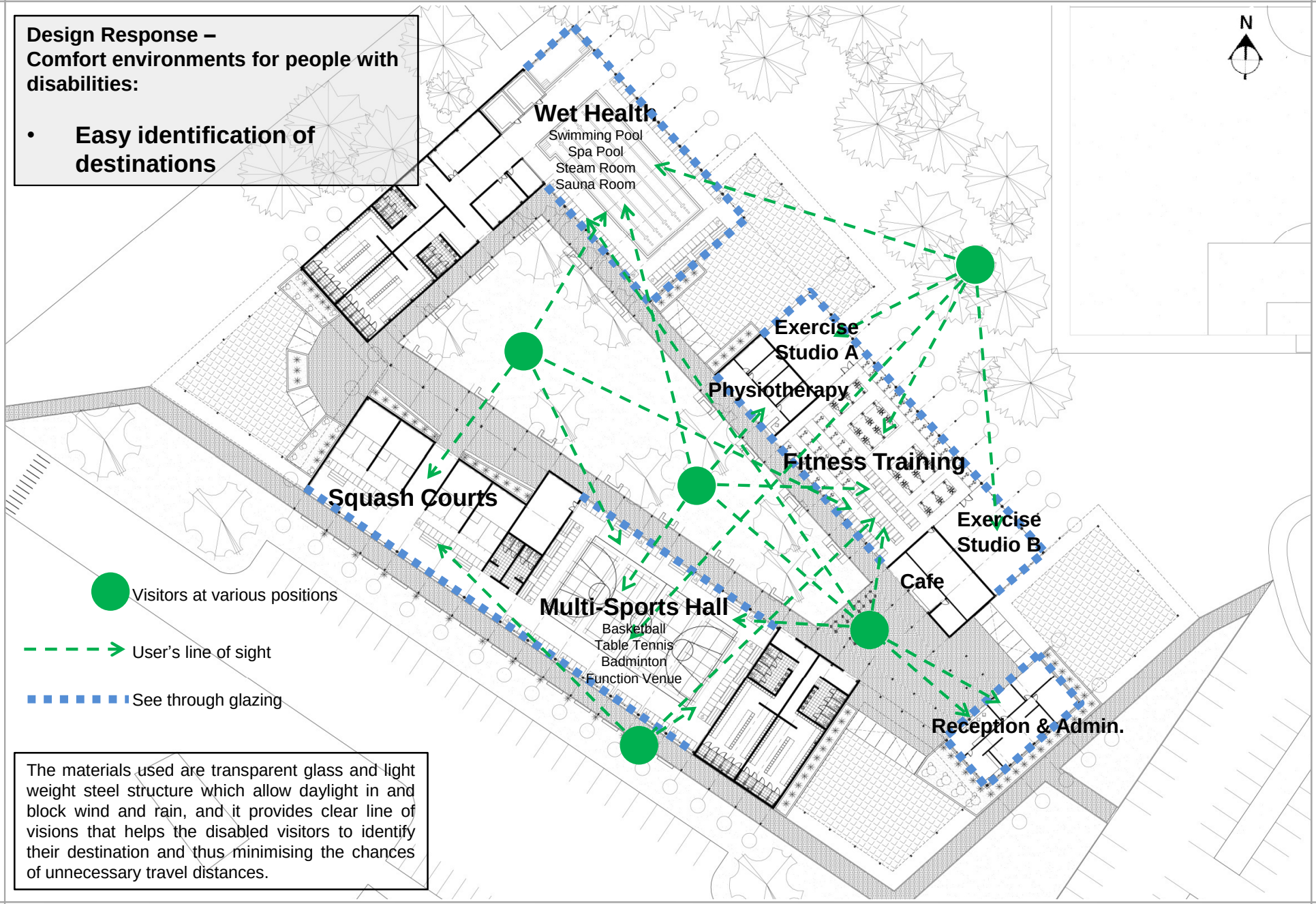
- **Engagements with natural landscape creating "Healing Experiences" to its users.**



Design Response –
Comfort environments for people with disabilities:

- **Protection from weather and smooth non-slip ground surface**

The walkway contains adjustable louvers that can be open and close depending on the weather. Providing shades in summer, sun shine in winter and protection against rain. Together with Porta Floor ™ smooth non-slip flooring system, they allow people with disabilities to move safely even when it rains.


Design Response –
Comfort environments for people with disabilities:
• Easy identification of destinations
N
Wet Health
Swimming Pool
Spa Pool
Steam Room
Sauna Room
Exercise Studio A
Physiotherapy
Fitness Training
Squash Courts
Exercise Studio B
Cafe
Multi-Sports Hall
Basketball
Table Tennis
Badminton
Function Venue
Reception & Admin.
Visitors at various positions
User's line of sight
See through glazing
The materials used are transparent glass and light weight steel structure which allow daylight in and block wind and rain, and it provides clear line of visions that helps the disabled visitors to identify their destination and thus minimising the chances of unnecessary travel distances.

Design Response –
Comfort environments for people with disabilities:

- **Resting places for people with disabilities.**

Resting places (seating)

People with disabilities need rest areas as strategic point on their routes to destination.

N

Design Response –
Comfort environments for people with disabilities:

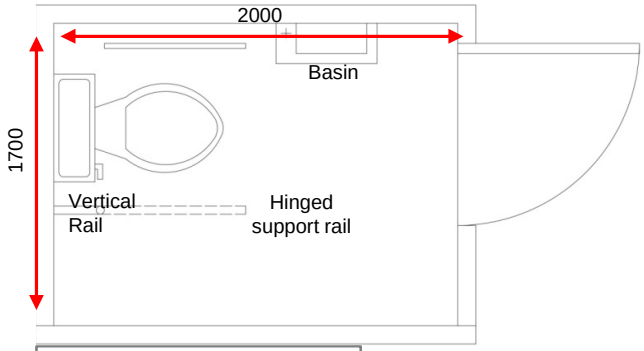
- **Fire Escapes for people with disabilities.**

People with disabilities will need to be able to circulate horizontally to areas of comparative safety easily.

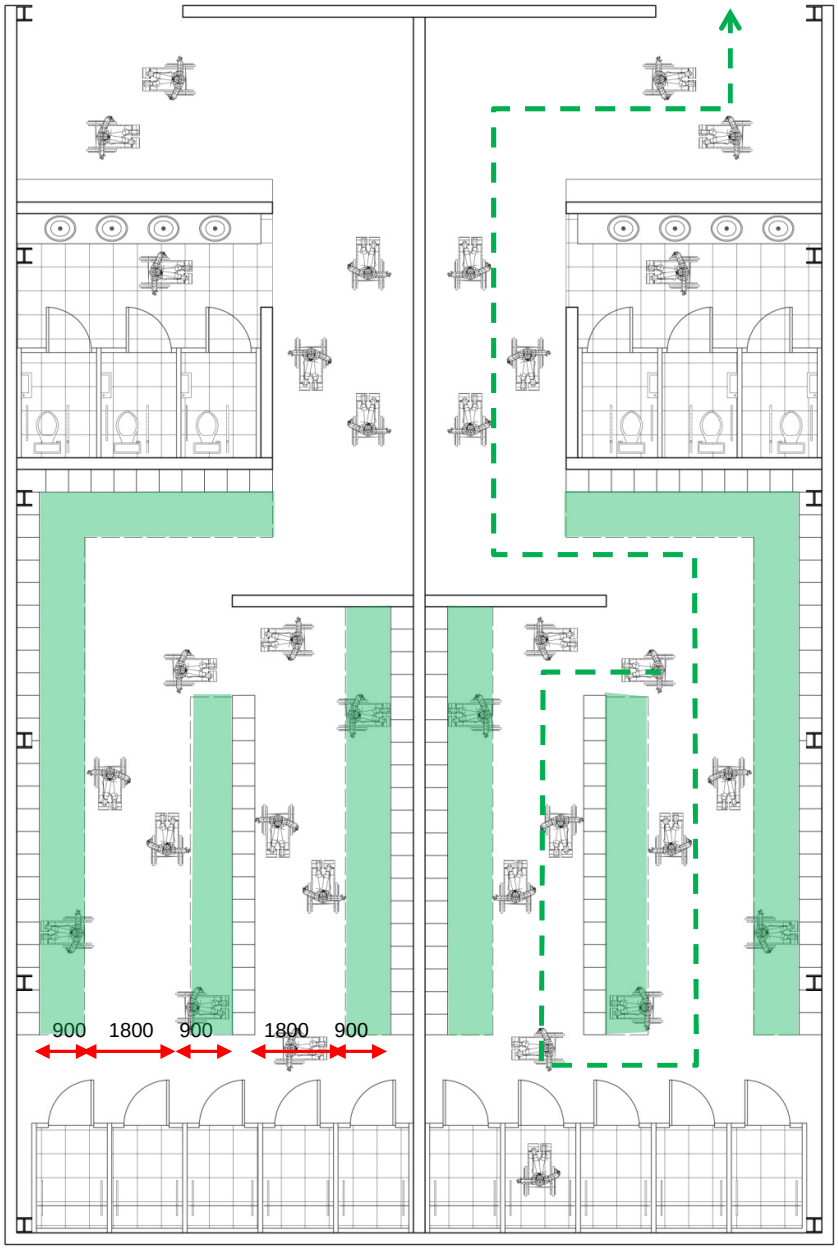
The full height pivot glazing allows for quick exit of the building in the case of emergency.

Design Response –
Comfort environments for people with disabilities:

- **Scale of space for people with disabilities.**



Plan of typical WC compartment

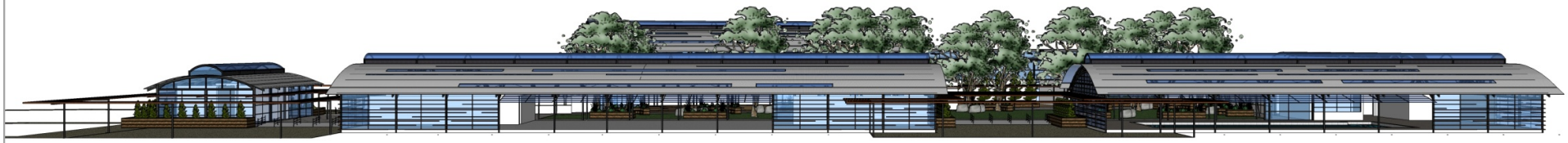


Plan of change room showing adequate space for people with disabilities to move

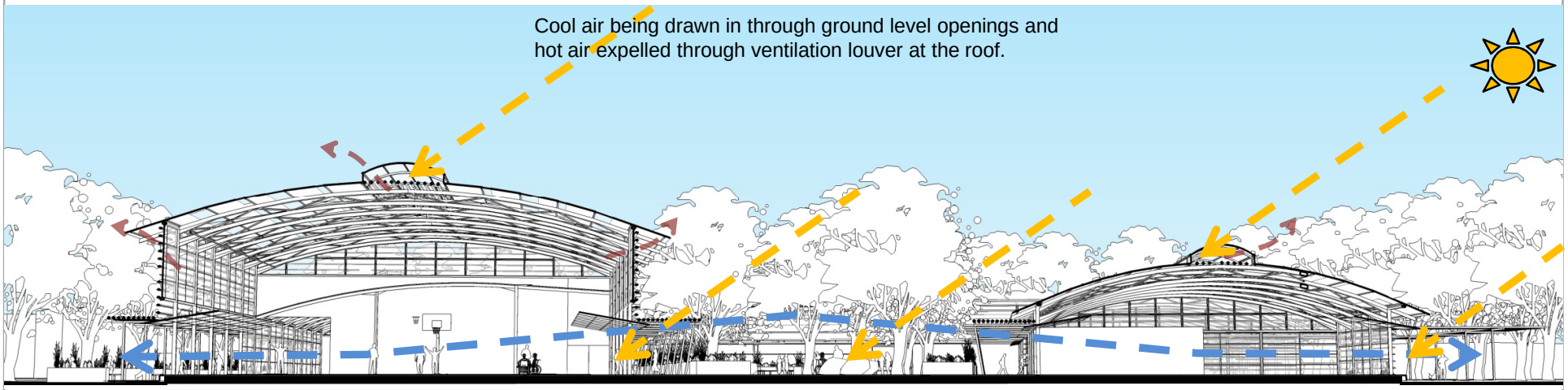
East Elevation

South Elevation

West Elevation



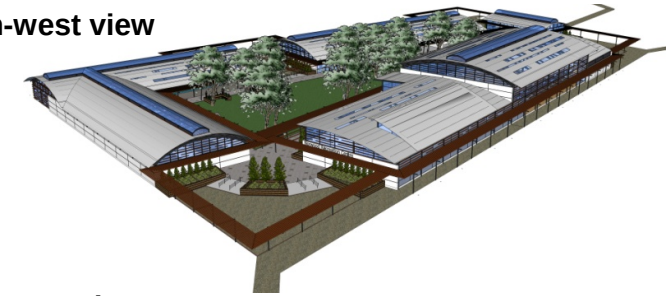
North Elevation



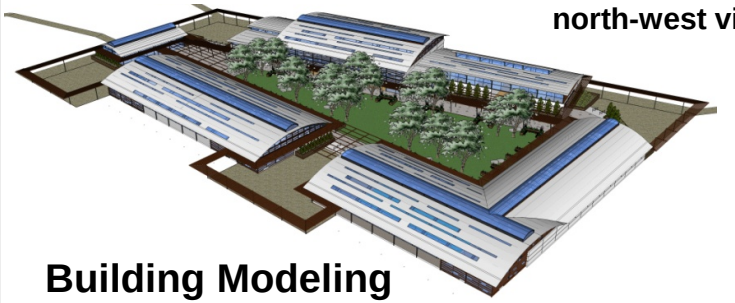
Sport Hall **Central Courtyard** **Fitness Training**

Section

south-east view



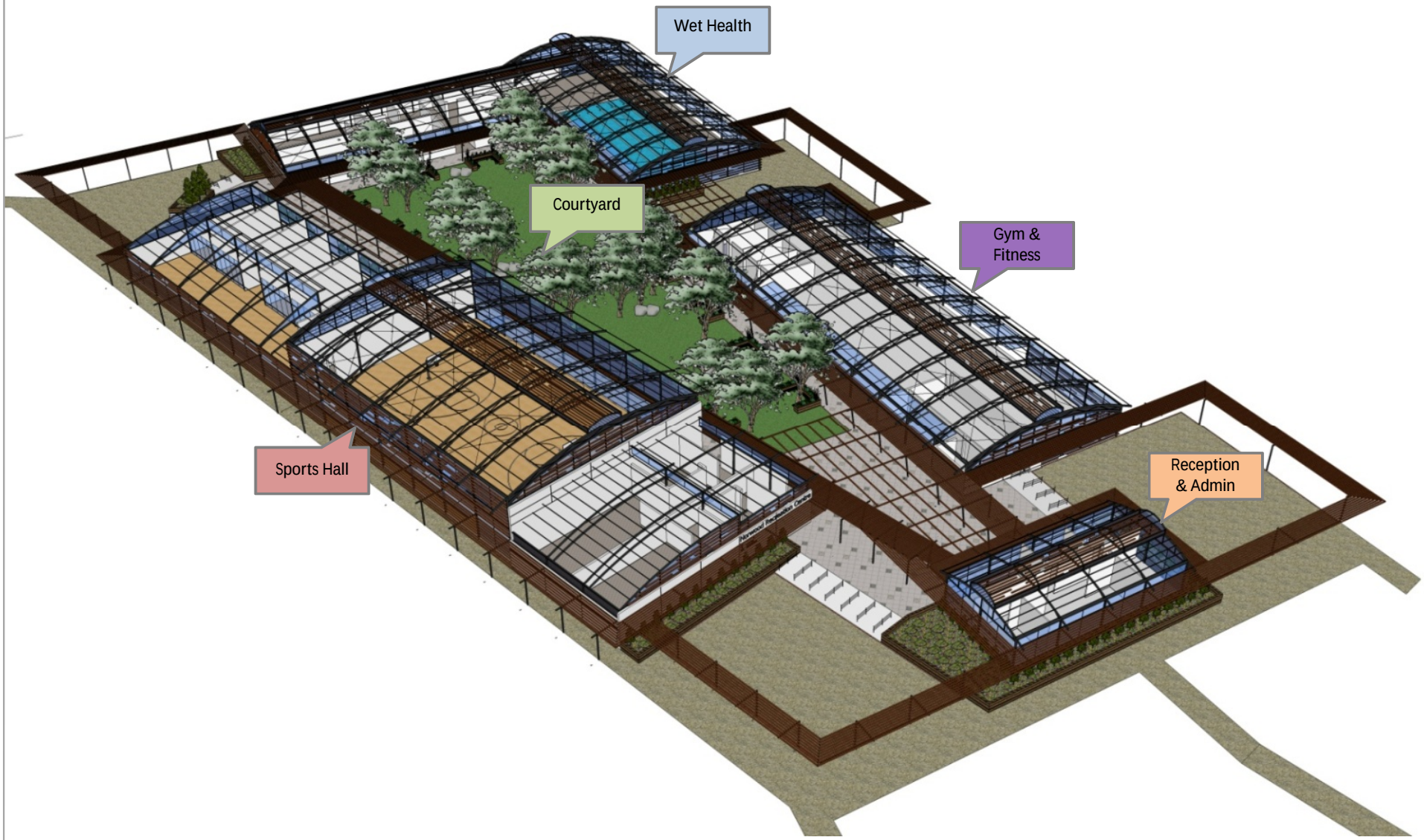
south-west view



north-west view

north-east view

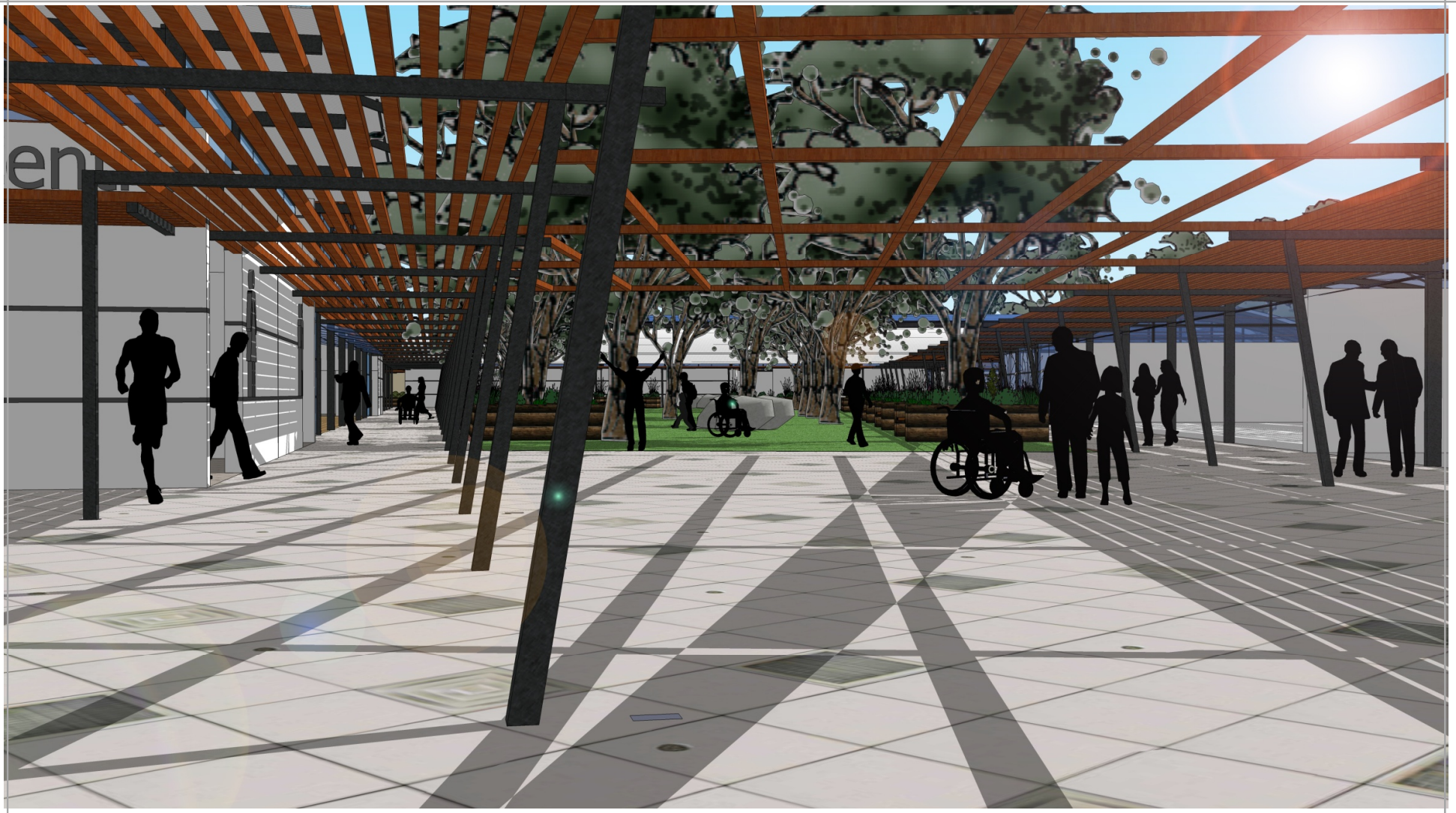
Building Modeling


Wet Health
Courtyard
Gym &
Fitness
Sports Hall
Reception
& Admin

Modeling

Entrance(A) View

Visitors enter the leisure from the main entrance at the east through a ramp.

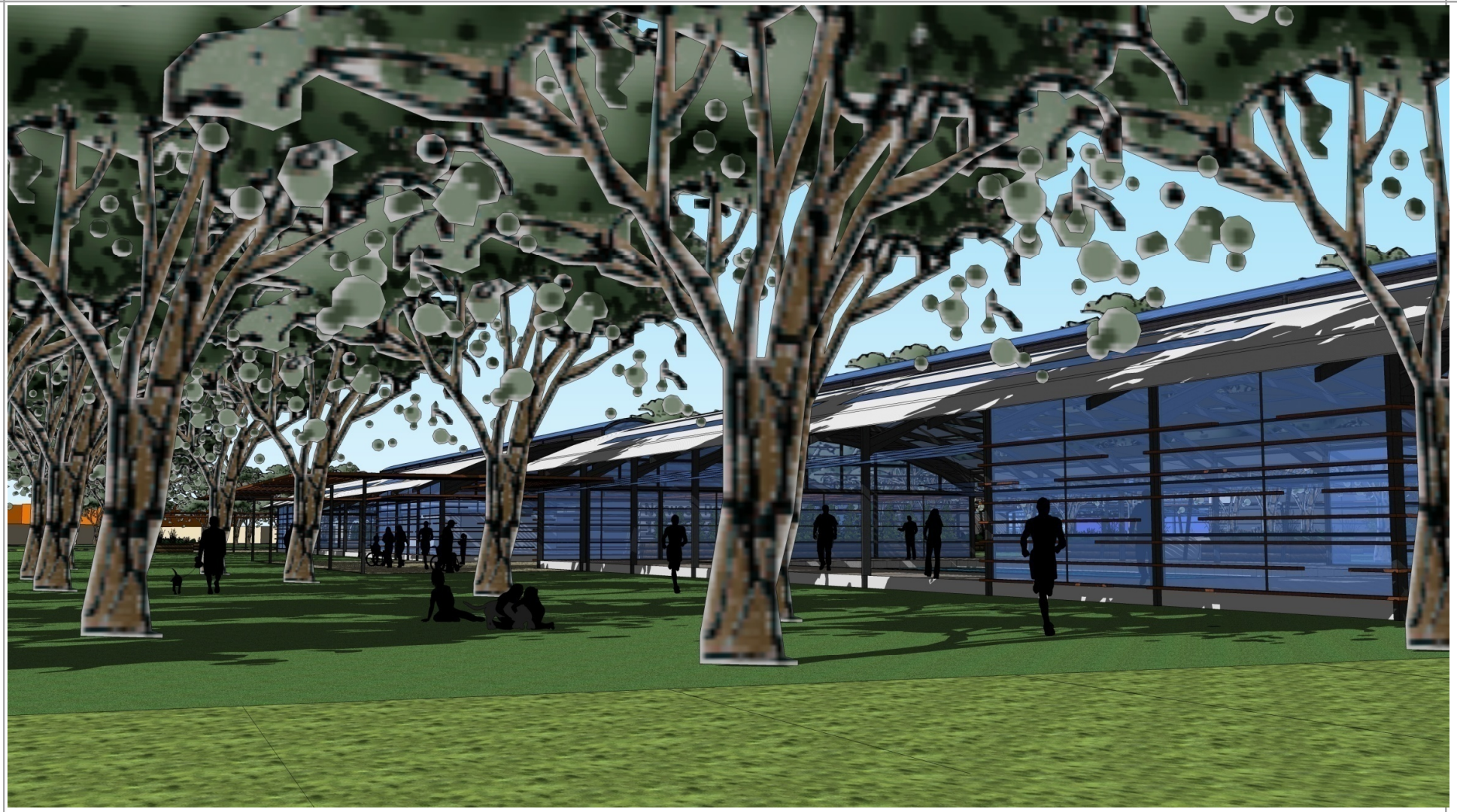


Entrance Foyer with Internal Street

Foyer space that overlooks into the courtyard with natural landscapes that sets the tone of the building.

Courtyard

A central open courtyard circulation space that provides social interactions with visual connections to the Sport Hall, Fitness Area and Pool & Wet Health Area.



Interaction with the Natural Landscapes

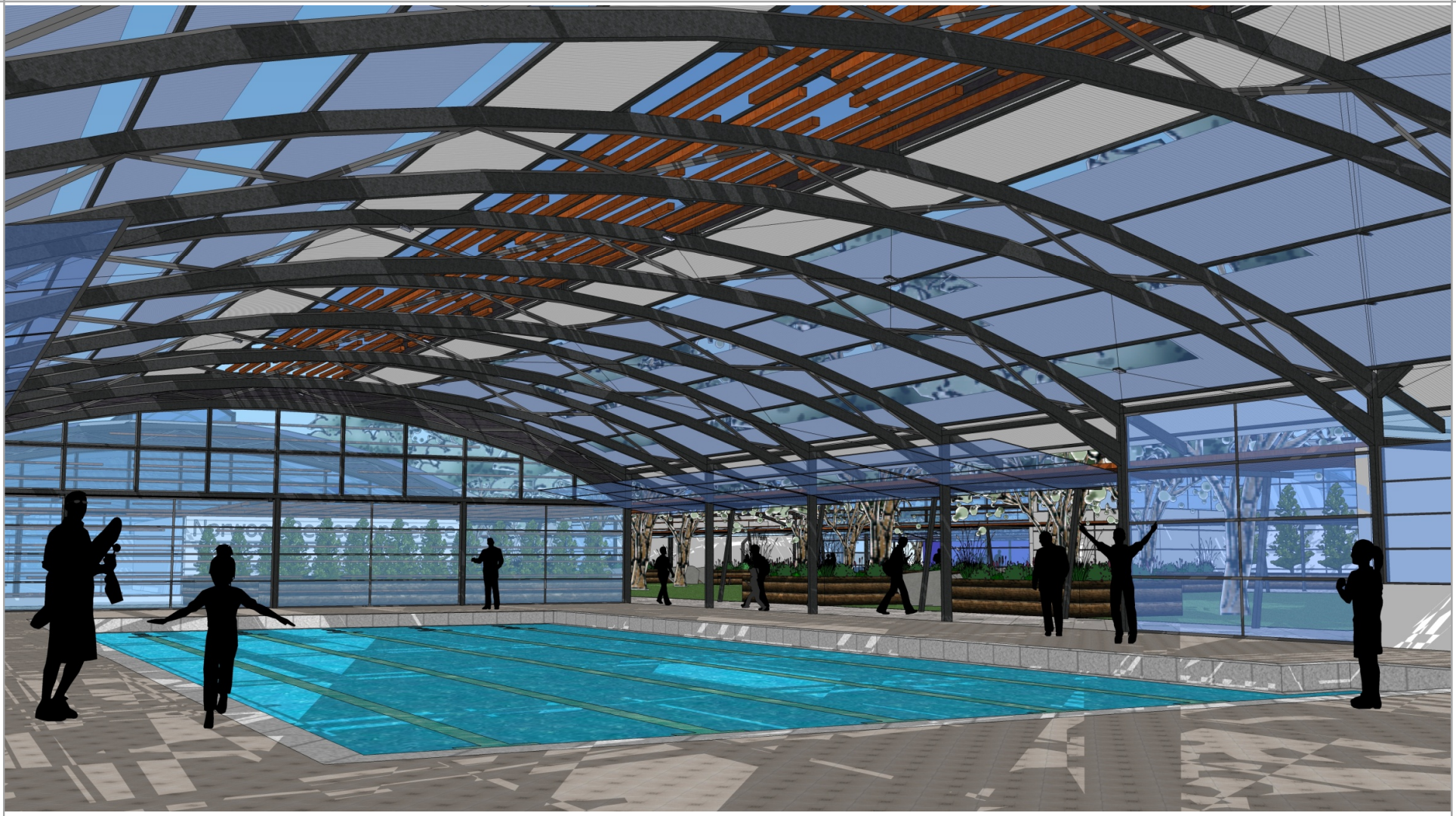
North façade gives views and access to the landscape. The wooden louver aesthetically echoes the surrounding landscape and functionally it helps to protect the north facing elevations from the sun.

Interaction with the Street

The transparent skin allows the dynamic of the sport hall to be exposed to the street, creating a seamless visual relationship of the street and the sport hall, welcoming not only it users but also the wider public.

Blurring the line of Indoor & Outdoor Spaces

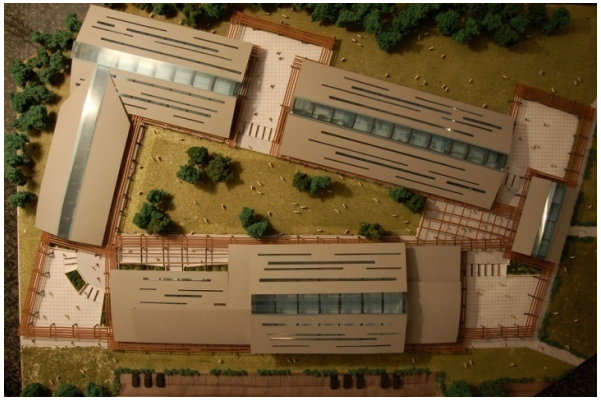
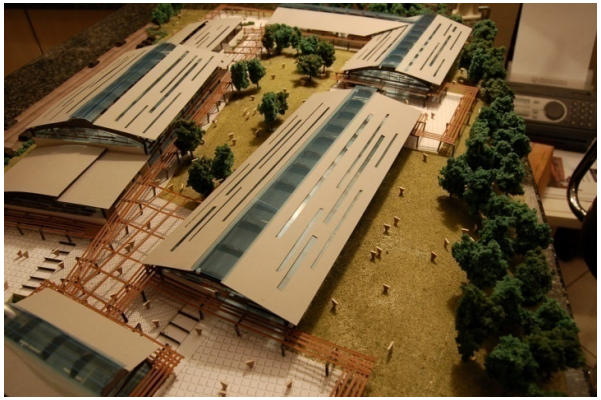
Reduce the mass of enclosing walls and reinforcing the idea of being outdoors and interact with the surrounding landscapes, while at the same time providing the comforts of indoor environments for disabled visitors.



View of Swimming Pool area

Place for the publics

Overhang adjustable louvers high light public places and indicating entrance to the building.






Final Model

Beyond Disabilities: Towards an Enabling Society

Sport and Recreation Centre for the social integration between Majorities and Minorities

Yu-Wei Fan 0200215F

Synopsis

This dissertation is not only about the production of a building: it is rather a progressive report, which documents the process and development of my personal manifesto of the inter-relationships between: the social and physical effects of sport activities and people with disabilities, in a public open spaces of the city. It aims to serve as an instrument to demonstrate the insight of my experiences, from taking a contemporary social issues (segregation of disabled people from the main society) and urban issues (lack of interests and abandonments of public park spaces in our city) into architectural theories; and later, consolidating the arguments by developing an experimental architecture prototype which directly responds to substantiate the theory.

The research did not begin from a particular point towards a specific building type or programme; instead, I located the base of the research by reinterpreting a personal experience and looking into a specific social/contextual condition. The process of the development of this dissertation will demonstrate how I transform these experiences into an architectural idea and hence come up with an architectural programme that is related to the body of my manifesto, and the building structure itself will be the projector that materializes the programme into real context and thus gives justification to my manifesto.

Motivation & Proposition

Participation in sport and recreational activities is the right of every individual. It is an integral part of leading a meaningful and balanced life. In today's society where there are many pressures forced on individuals and families, however, sport and recreation remains the main healthy outlet to offset these tensions.

For people with disabilities, sport and recreation has the added dimensions that it is an effective tool in the rehabilitative process. The psychological benefits of physical activity are many: the ability to participate leads to self motivation which in turn leads to other accomplishments. Therefore, the need for a facility where the able-bodied and the disables can train, participate and socialise with family and friends is prime importance.

Architecture here will be used as one of the physical **tool** that will provide a platform to encourage more interactions between society and people with disability and let people with disabilities to gain more self-confidence in themselves, like the topic suggested: go beyond disabilities, enabling disable people to be recognized as a group with entitlements.

Issues:

Barriers to inclusion of sports for people with disabilities and lack of interests and abandonments of public recreation park spaces in our city

Society's attitudes about people with disabilities in sport have led to specific barriers to participation. These include:

a)Accessibility
b)Lack of access to training programs and coaches
c)Economic and affordability
d)Lack of role models in disability sports
e)Segregation of able and disabled people in sport and recreational activities

Park spaces have always been associated with sport and recreational activities. The park generally offers a wide range of cultural and recreational diversions; it draws publics, comprising all ages and races, from different economic backgrounds. Everyone have the rights to use park as a place to socialize including people with disabilities.

One major reason for the large scale abandonment of public park spaces in Johannesburg is the fear of crime. In the contemporary era, public spaces are increasingly associated with notions of fear and vulnerability. Consequently, the ideal qualities that characterize these spaces, such as sociability and accessibility, have been denied.

As results, many park spaces in Johannesburg have become waste lands and a refuge for vagrants and undesirables. Public spaces has been emptied of much of its vitality, it has become increasingly impersonal and drained of the social meaning which was previously attached to it, and lost its relevance to community life.

In addition, the lack of managements for the parks has results in lack of interest for people to use it. Therefore, the above mentioned issues actually enforced the private developers with a strong reason to remove park spaces in our cities.

Site

Paterson Park, Norwood, JHB

As the proposal of this thesis is a sport and recreational facility for public use, therefore, a public open space will present a good choice of site as they can be easily linked together. Although, they are many existing public open spaces within Johannesburg that presents an easy choice as they have the space to be developed for recreational purpose. However, as most of these public open spaces have not been developed to any great extent there are likely to be many objections to such a proposal on the grounds that it would be an encroachment into a public area which and should remain undeveloped and remained as open public space.

The exception to this is Paterson Park in Norwood, Johannesburg, which has already been developed to a certain extent as a public recreational park with certain sport facilities. In addition, according to *Johannesburg Town Planning Scheme 1979*, although there are certain restrictions when it comes to developing a public open space, but after a meeting with staffs from Land Management Department at Johannesburg City Council, the conclusion is City Council will not have any objection to such a proposal in Paterson Park because the proposal didn't conflict with its land use rights but actually improving it. This park also fulfils the three main location criteria. The park is currently little used by the public due to security issues and lack of place of interests that attracts public's attention and therefore it presents an ideal opportunity.

Precedent Studies

Paimio Sanatorium,
Paimio, Finland, 1929 - 1933:
Alvar Aalto

To understand the concept of designing for users with **special needs** and how that can manifest itself in architecture.

Whitechapel Sports Centre,
London, UK, 1998: Pollard Thomas & Edwards Architects (PTE Architects)

How the building response to the community, in which their special needs are accommodated discreetly and efficiently.

Spa Recreation Centre Bad Elster,
Bad Elster, Germany, 2000: Behnisch Partners

How the old and new structure work with one another in harmony, creating a space that encourages more social interactions and interactions with the natural landscapes.

Joubert Park,
Johannesburg, South Africa

The principal aim is to highlights problems, which individually or collectively have the effect of reducing the quality of the open space system in our city.

Site Analysis

Norwood Sport & Recreation Centre

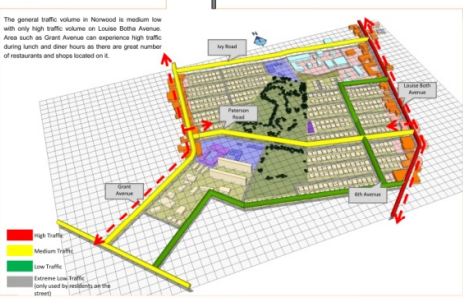
Presentation Panels

Mapping 1 — **Land Uses**

Norwood and the surrounding suburbs are predominantly residential, which presents better potential population of the users of the facility if compares to site in business or commercial area. Other uses which exist within the immediate area include local shops, schools, police station and other uses directly concerned with the daily needs of the residential population.

Mapping 2 — **Vehicular Traffic Movement**

The general traffic volume in Norwood is medium low with only high traffic volume on Louise Botha Avenue. Area such as Grant Avenue can experience high traffic during lunch and diner hours as there are great number of restaurants and shops located on it.

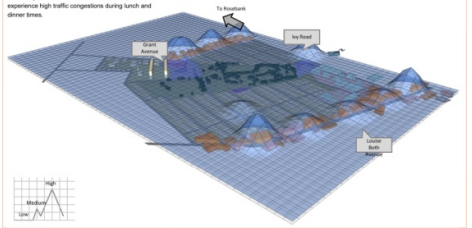


Mapping 3 — **Vehicular Traffic Congestions**

Louise Botha Avenue
Louise Botha is experiencing high traffic congestion all day long and it is especially high during peak hours.

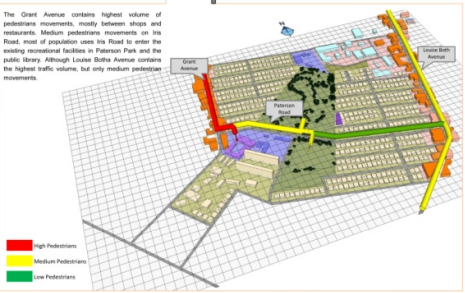
Grant Avenue
Due to high number of restaurants and shops, it can experience high traffic congestions during lunch and dinner times.

Ivy Road
as one of the linking road between Rosebank area and Louise Botha, Ivy Road can also experience medium – high congestion during peak hours.



Mapping 4 — **Pedestrian Movements**

The Grant Avenue contains highest volume of pedestrians movements, mostly between shops and restaurants. Medium pedestrians movements on Iris Road, most of population uses Iris Road to enter the existing recreational facilities in Paterson Park and the public library. Although Louise Botha Avenue contains the highest traffic volume, but only medium pedestrian movements.



Mapping 5 — **Site's Visibilities**

The site has its maximum visibility through Iris Road, however, the tree rows might block the viewers' vision looking deep into the site. The cal-de-sac at the end of streets attaching to the site also provides visibilities of the site, however, these cal-de-sac has been blocked off and no physical access to the park.

Mapping 6 — **Site's Permeability**

The best accesses into the site will be on Iris Road as it contains the highest visibility on the road. However, the road blocks on each cal-de sacs can be removed in future for alternative accesses into the site.

Problems:

- Totally isolated from the surrounding residential area, except Paterson Road entrance, all other roads leads to the park have been block off.
- The park is highly under-developed and under-utilized.
- Poor lighting condition in the park during the night, there are too many blind spots that provides covers for offenders.
- Design and placement of street furniture is inadequate and poor. Never used, uninviting.
- Although there is a Police station adjacent, the crime and vagrancy is still a problem in the park. The park being a close off area from it surrounding only harbours this problem.
- Poor maintenance to the existing sport faculties.
- No users – lack of interests to attract users, abandoned void in the neighbourhood.
- Information obtained from the city council indicating that the park could be sold to developers for new house developments, great lost for the residents.

Opportunities:

- The existing sport facilities could be strengthen and introducing more activities to enhance park usage.
- The park is sloping down towards north, most of the areas receive natural sunlight.
- The site has potential to provide a better playground for the school adjacent.
- The park situated in the centre of a residential area, it should be directly respond to the surrounding residential area.
- The park could be link to the commercial areas on Grant Avenue, to provide a resting place for the pedestrians.

Concept

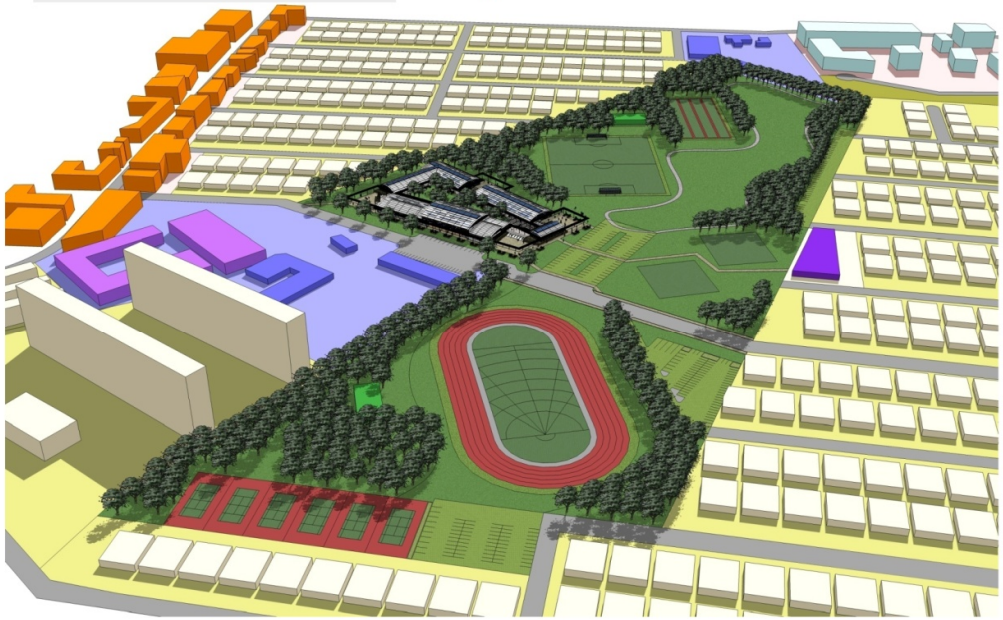
Programs

1. **Indoor Sport**
   - **Recreation Centre**
     - Basketball
     - Squash
     - Swimming
     - Table Tennis
     - Fitness Training
2. **Outdoor Sport**
   - Athletic Track and Field
   - Cycling Tracks
   - Archery
   - Soccer Filed
   - Tennis Courts
3. **Recreational Programs**
   - Recreation Centre
   - Cycling Trails
   - Picnicking
   - Children's' Playfield
   - Walking Trails
   - Resting Places
   - Spa Wet Health
   - Physiotherapy

SITE PLAN

Norwood Sport & Recreation Centre

1.. SPORT & RECREATION CENTRE 2.. SOCCER FIELD 3.. ARCHERY 4.. WALKING &CYCLING TRAIL 5.. OPEN RECREATION 6.. CHILDREN'S PLAYING FIELD 7.. ATHLETIC TRACK & FIELD 8.. TENNIS COURTS 9.. STORAGE & ABLUTION 10.. LOCAL LIBRARY 11.. LOCAL POLICE STATION 12.. LOCAL SCHOOL



Design Responses | Site

Comfort Environments for People with Disabilities and safer public recreational park

Site Plan - Before

Site Plan - After

1.. Accessibilities for Publics to use the Space

2.. Parking Spaces Close to Destinations (< 100 m distance)

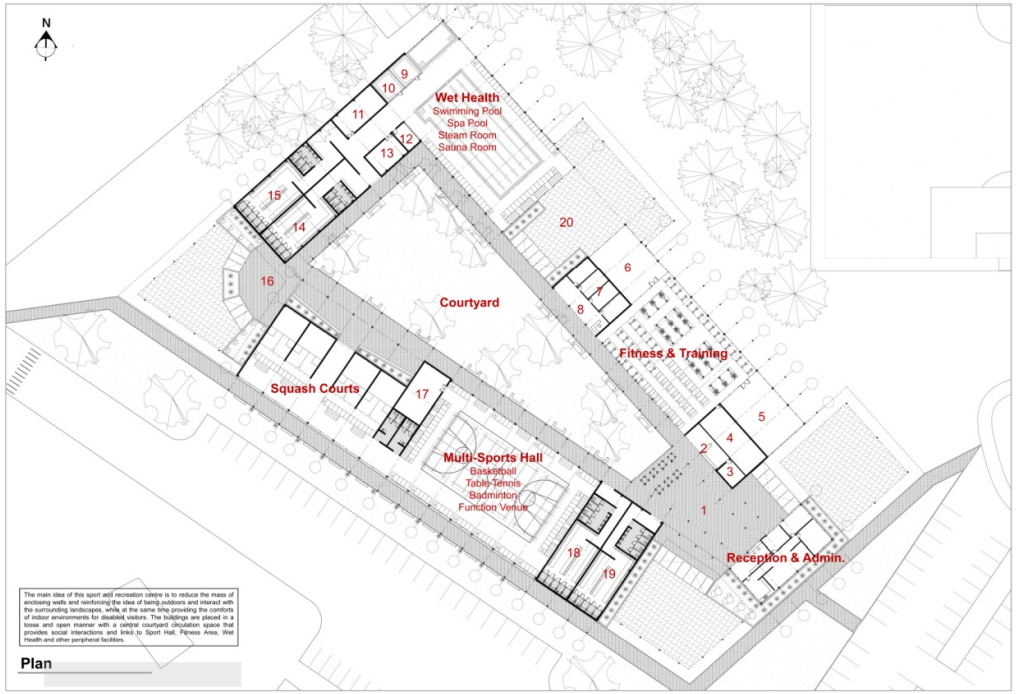
3.. Intermediate Resting Places along Circulations (seating @ maximum of 50m intervals and natural banks)

4.. Activity Generators

5.. Clear Visibility and Sight Lines

BUILDING PLAN

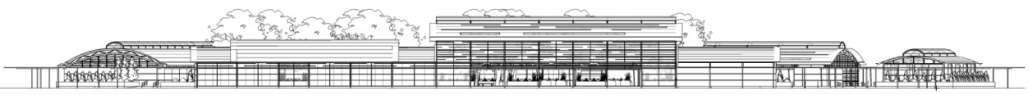
Norwood Sport & Recreation Centre



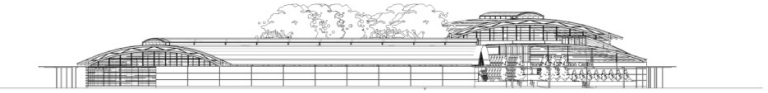
Plan

1.. ENTRANCE FOYER **2..** CAFÉ **3..** KITCHEN **4..** STORAGE **5..** EXERCISE STUDION B **6..** EXERCISE STUDIO A **7..** TREATMENT ROOMS **8..** PHYSIOTHERAPY RECEPTION **9..** SAUNE ROOM **10..** STEAM ROOM **11..** MECHANICAL ROOM **12..** FIRST AID **13..** STORAGE **14..** FEMALE WET CHANGE ROOM **15..** MALE WET CHANGE ROOM **16..** ENTRANCE B **17..** STORAGE **18..** FEMALE DRY CHANGE ROOM **19..** MALE DRY CHANGE ROOM **20..** ENTRANCE C

EAST ELEVATION



SOUTH ELEVATION

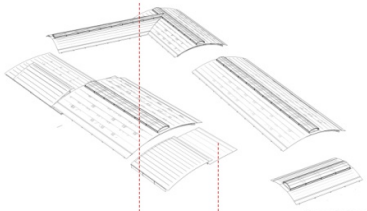


WEST ELEVATION

NORTH ELEVATION

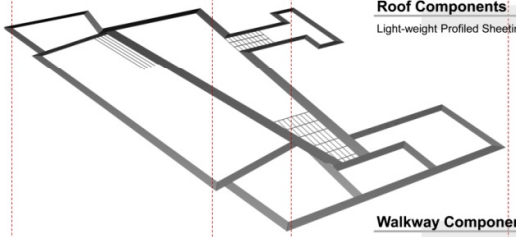
BUILDING ASSEMBLY

Norwood Sport & Recreation Centre



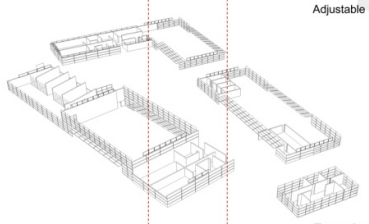
Roof Components

Light-weight Profiled Sheeting & Roof Lights



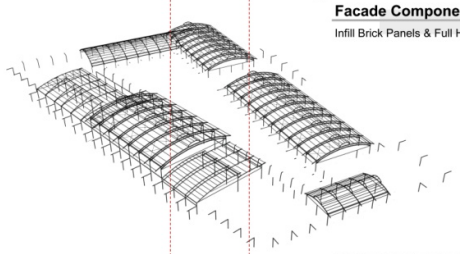
Walkway Components

Adjustable Louvers



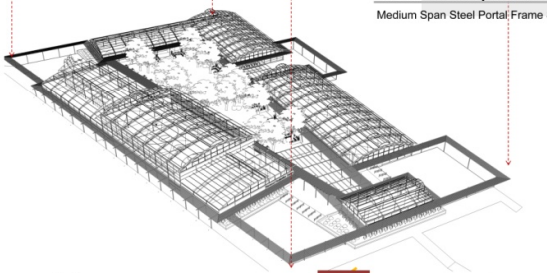
Facade Components

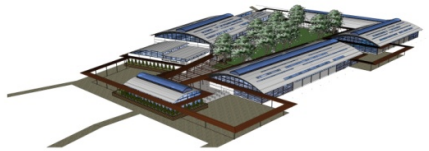
Infill Brick Panels & Full Height Pivot Glazing



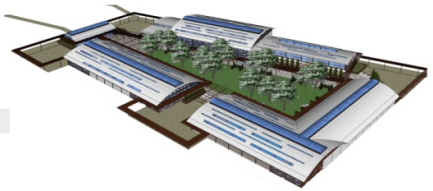
Structure Components

Medium Span Steel Portal Frame Structure System

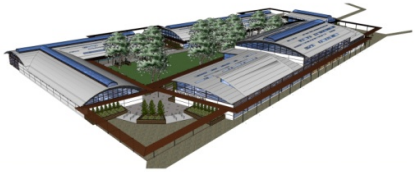




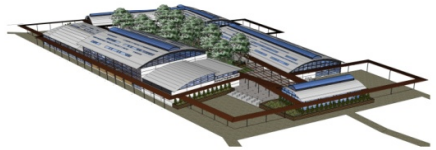
North–East View



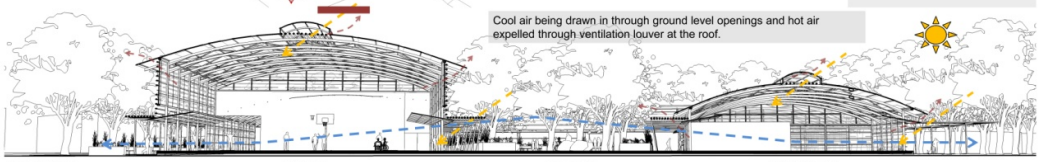
North–West View



South–West View



South–East View



SECTION

Design Responses | Building

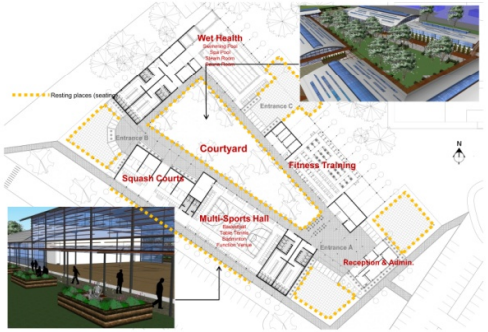
Comfort Environments for People with Disabilities and safer public recreational park

1.. Simple Straightforward Circulations

2.. Direct engagements with natural landscape creating "Healing Experiences" to its users.

3.. Protection from Weather and Smooth non-slip Ground Surface

4.. Clear Line of Sight - Easy Identification of Destinations

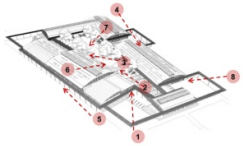


5.. Intermediate Resting Places for People with Disabilities.

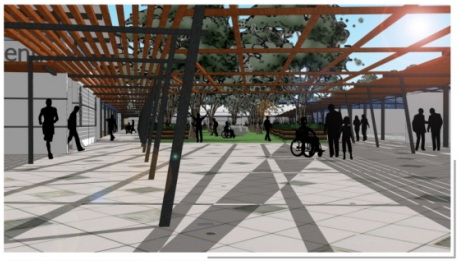
6.. Emergency Exits for People with Disabilities.

3D Representations

Comfort Environments for People with Disabilities and safer public recreational park



1.. Entrance View
Visitors enter the centre from the main entrance at the east through a ramp.



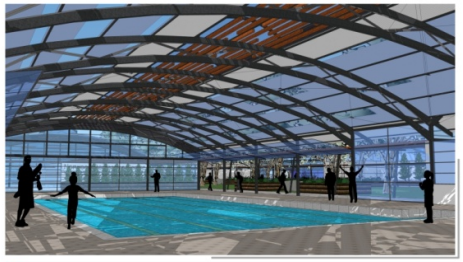
2.. Entrance Foyer with Internal Street
Foyer space that overlooks into the courtyard with natural landscapes that sets the tone of the building.

3.. Courtyard
A central open courtyard circulation space that provides social interactions with visual connections to the Sport Hall, Fitness Area and Pool & Wet Health Area.

4.. Interaction with the Natural Landscapes
North façade gives views and access to the landscape. The wooden louver aesthetically echoes the surrounding landscape and functionally it helps to protect the north facing elevations from the sun.

5.. Interaction with the Street
The transparent skin allows the dynamic of the sport hall to be exposed to the street, creating a seamless visual relationship of the street and the sport hall, welcoming not only it users but also the wider public.

6.. Blurring the line of Indoor & Outdoor Spaces
Reduce the mass of enclosing walls and reinforcing the idea of being outdoors and interact with the surrounding landscapes, while at the same time providing the comforts of indoor environments for disabled visitors.



7.. View of Swimming Pool

8.. Place for the publics
Overhang adjustable louvers high light public places and indicating entrance to the building.

Bibliography

8.0

Bibliography

Books:

AALTO, A. (1998). **Alvar Aalto in Seven Buildings: Interpretation of an architects work**. Helsinki: F.G. Lonnberg

ALTMAN, I. and Zube, E. (1989). **Public Places and Spaces**. New York: Plenum Press

ALLEN, C and MEEKEL, H (1980). **Johannesburg Metropolitan Parks and Open Space Report**. Johannesburg: City Engineer's Department

BURDETT, R. (2006). **Cities: Architecture and society***.* New York: Rizzoli.

COOPER MARCUS, C. and FRANCIS, C. (1990). **People Places: Design Guidelines for urban Open Space**. New York: Van Nostrand Reinhold

DEPAUW, K and GAVRON, S (1995**). Disability and Sport**. USA: Human Kinetics

FARBSTEIN, J and KANTROWITZ, M (1978). **People in places**. Eaglewood Cliffs: Prentice Hall.

GIBBERD, A. (2001). **Legislation and policy relating to people with disabilities in terms of the design and management of housing and the external built environment in South Africa.** Pretoria: CSIR

GOLDSMITH, S. (1976). **Designing for the Disabled**. London: RIBA

JACOBS, A. and APPLEYARD, D (1996) with LE GATES, R. T. and STOUT, F. (Editor). **The City Reader**. London: Routledge

JACOBS, J. (1961). **The Death and Life of Great American Cities**. London: Jonathan Cape

JEFFERY, R. C. (1977). **Crime Prevention through Environmental Design**. California: Sage

MOLNAR, D. J. (1986). **Anatomy of a Park: The Essentials of Recreation Area Planning and Design**. New York: Mcgraw-Hill

NAPIER, M. (1998). **Environmental Design for Safer Communities in South Africa**. Pretoria: CSIR

Oc, T, and Tiesdell, S. (1997). **Safer City Centres: Reviving the Public Realm**. London: Paul Chapman

PACIOREK, M and JONES, J (1989). ***Sports* and Recreation for Disabled**. USA: Benchmark Press

PYLE, G. F. (1974). **The Spatial Dynamics of Crime**. Chicago: University of Chicago, Department of Geography

RUAN, X. (2006). **New China Architecture**. Singapore: Periplus Editions

SATO, M. (1992). **Community Design: Elements of Modern Environmental Landscape and Signage**. Tokyo: Graphic - Sha

STOLLARD, P. (Editor). (1991). **Crime Prevention through Housing Design**. London: Spon

TATE, A. (2001). **Great City Parks**. London: Spon

WESTON, R. (1995). **Alvar Aalto**. London: Phaidon

Journal Articles:

BRANDOLINI, S. (1998). **Domus: July 1998: Gigon and Guyer: Sport Centre, Davos.** Milano: 28-33

CARTER, B. (2004). **Architectural Review: October 2004: Lighting the community: Gleneagles Community Centre.** London: Architectural Press Ltd: 67 -71

KAPPLINGER, C. (2000). **Domus :May 2000: Sports centre** and **nursery school at Winterfeldtplatz**, **Berlin**. Milano: 36-41

KUCHAREK, J.C. (2000). **RIBA Journal :May 2000: Making a splash.** London: Royal Institute of British Architects: 36 – 41

PEARSON, C. A. (2001). **Architectural Record :August 2001: Places of Sport and Leisure.** Roma: Robin Press: 107 – 119

UNKNOWN (1998). **A & U: architecture and urbanism: Aug 1998: Enric Miralles: Alicante Eurythmic Sports Center.** Tokyo: 112-143

UNKNOWn (2003). **A & U: architecture and urbanism: Dec 2003: Wukesong Cultural and Sports Center.** Tokyo: 38-41

UNKNOWN (2004). **Detail: Jan-Feb 2004: Sports hall in Odate.** Munich : Verlag Architectur & Baudetail: 56-59

WISLOCKI, P. (1998). **RIBA Journal: June 1998: Game Plan: Whitechapel Sports Centre, London**. London: Royal Institute of British Architects: 40 - 45

Online Resources:

DISABLED PEOPLE SOUTH AFRICA (DPSA), 2000. **Documents**. [online] available from: http://www.dpsa.org.za/documents_pocketguide.htm#ddmt [accessed: march 2008]

DISABILITY STATISTIC SA, 2008. **Disability Statistics** [online] available from: http://www.signgenius.com/info-statistics.shtml [accessed: February 2008]

REPUBLIC OF SOUTH AFRICA GOVERNMENT GAZETTE, (2000). **Government Gazette vol. 416 no. 20876** [online] available from: http://www.info.gov.za/gazette/acts/2000/a4-00.pdf [accessed: March 2008]

SOUTH AFRICAN SPORTS ASSOCIATION FOR PHYSICALLY DISABLED (SASAPD), 2005. **Formation of sport structures and the position of SASAPD** [online] available from : http://www.sasapd.org.za/data/Sport%20structures%20and%20SASAPD%20June%202005.htm [accessed: March 2008]

SPECIAL OLYMPIC INTERNATIONAL (SOI), 2006. **Special Olympic Fact Sheet** [online] Available from: http://www.2006nationalgames.org/news/pdf/SO%20Fact%20Sheet.pdf [Accessed: March 2008]

See reference:

DPSA – see Disabled People South Africa
SASAPD – see South African Sports Association for Physically Disabled
SOI – see Special Olympic International

Appendices

9.0

PRESIDENTIAL HANDSHAKE

President Mandela, Patron of the SA Junior Wheelchair Sports Camp gave us some of his time and watched more than twenty different sports and shook hands with all 150 disabled children attending the first SA Junior Wheelchair Sports Camp at Paterson Park in Norwood.

President Nelson Mandela being welcomed by Ellen van der Net the Camp Director.

Lisa introducing the President to some of the Athletes

President Nelson Mandela exchanging a word with a Volunteer and an Athlete

MESSAGE FROM PRESIDENT NELSON MANDELA TO THE CHILDREN AT THE CAMP

Our children are our most treasured assets. They are our future leaders. Their well-being is ultimately the well-being of an entire nation.

For disabled children much, much more must be done – more to meet their needs, more to ensure that they are fully integrated in society, and more to make them feel that they belong to the communities in which they belong.

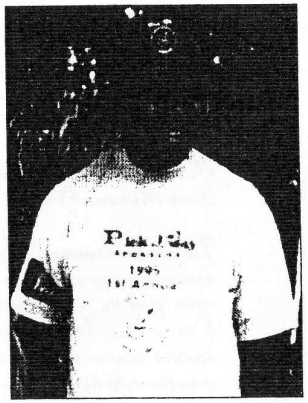
Parents, especially mothers, and other caretakers, play a critical role in early childhood development of disabled children. Too often families caring for disabled children are stigmatised and discriminated against by their communities instead of getting the support they need as they face up to greater challenges than most of us ever know. Communities are therefore called upon to embrace children with disabilities as their own to affirm their equality and accord them their rightful place in society.

Let us join hands and together tell the disabled children of South Africa that we love each of them as our very own.

Nelson Mandela

Nelson Mandela
President
Republic of South Africa

20 November 1998



President Nelson Mandela enjoying the outing

THE WHEELCHAIR SPORTS CAMP

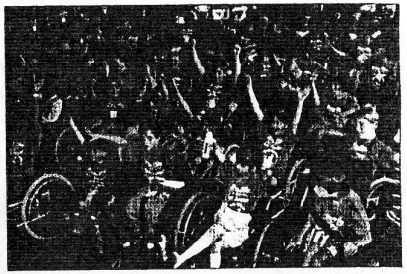
A BRIEF HISTORY

The camp was the brainchild of well-known and respected disabled personality Lisa Eriksen-Siff who had made a mark in this country by her active promotion of aerobics for disabled people. This was complemented by her dynamic approach to bettering the quality of life for disabled people which included areas such as recognition, accessibility, transportation etc. Lisa was very ably assisted by Ellen van der Net who has been involved with the Paterson Park Community Recreation Centre in Johannesburg for many years and has a very strong "hands on" approach.

The first camp was held during December 1995 and attracted sponsorship from major sponsors including Pick 'n Pay and the Nelson Mandela Children's Fund amongst others. To mark the occasion, guest speakers included Jon Bon Jovi whose presence was eagerly received by all who attended. The State President found time in his hectic schedule to visit the week-long camp which was showered with high praise and good media coverage. The camp has continued to run on an annual basis and grown from strength to strength since inception.

THE PHILOSOPHY

The camp is designed to address many important aspects of a disabled person's life - these include social integration, quality of life and confidence building - sport provides the ideal vehicle to achieve this target. Those invited are disabled people ranging from seven to eighteen years of age and the sports on hand include basketball, tennis, swimming aerobics, weight training, athletics, archery and horse riding.



The camp runs for five consecutive days usually the first week of school holidays in December. The campers are divided into their age groups and are allocated as many volunteers as they need. One to two group counsellors, who are also physically disabled, are assigned to each age group to motivate the youngsters.

The children are coached by top wheelchair athletes who inspire our youngsters to strive to reach their maximum athletic potential. The purpose of these camps is to provide physically disabled youths the opportunity to enjoy the benefits and rewards associated with sports and recreation. For many children it is their first experience in the kind of "day-camp" situation that able-bodied youngsters have every year.

THE FUTURE

The camp has grown in stature and the need for continuity is undoubted. The response and popularity of the venture has revealed a very definite need for continuity and more frequent staging. With the recent departure of Ellen van der Net and the imminent departure of Lisa Eriksen-Siff a determined and willing committee is adamant that not only will the camp survive, it will become bigger and better as a tribute to those who pioneered it.

The committee has made great inroads with the Mandeville Sports and Social Club with a view to hosting quality "mini-camps" which will culminate in a "major camp" during December of each year. Mandeville is regarded as the flagship entity catering for sport for disabled people - certainly in Gauteng and quite possibly on a national basis. Due to its progress and expansion in recent times, it has been granted Headquarter status of the South African Sports Association for Physically Disabled (SASAPD) and indeed the National Paralympic Committee of South Africa (NAPCOSA). The reason for relocation is to build on the solid foundation and facility as provided by Mandeville as opposed to operating splinter groups providing sport for the disabled. Mandeville's facilities are in some cases excellent with much work being carried out to upgrade areas needing attention.

The Chairman of ten years standing (Andy Scott) has vast experience in the administration of sport for disabled people and serves on several national and international committees - his commitment is undoubted.

In our current society, which emphasizes sports and recreation, there is no reason why disabled children should be denied the fun of sports participation.

The Junior Wheelchair Sports Camp allows these physically disabled children an opportunity for a fuller and more meaningful life.

TRIBUTES

WAY TO GO ELLEN

For the duration of the Junior Wheelchair Sports Camp Ellen van der Net was the Senior Sports and Recreation officer of the Paterson Park Recreation Centre.

She has co-ordinated children's holiday programmes and fitness classes for the past 10 years and holds a certified qualification from the University of the Witwatersrand Fitness Programme to instruct sports for the disabled.

Ellen made a significant contribution to all the Junior Wheelchair Sports Camps. She has enormous enthusiasm and drive that carried all the volunteers through the year.

Ellen was totally dedicated to the success of the Wheelchair Sports Camp. Her selfless dedication was invaluable and will be sorely missed.

The children who enjoyed the last three years will always remember your vitality and energy you imparted to the camp and all the people around you.

Ellen's family helped considerably over the three years .

THANK YOU LISA FOR SHOWING US THE WAY

A great debt of gratitude is owed by all the disabled youngsters, and able-bodied persons who have enjoyed the last three year of the Junior Wheelchair Sports Camp.

Lisa Ericson-Siff was born in Casper, Wyoming and moved to Calgary in Alberta at the age of three where she started practising ice-skating. At the age of 19 she toured Europe for a year with the show Holiday on Ice before returning home.

Lisa was 27 and living in Denver when fate intervened. Lisa contracted a medical condition and found herself paralysed from the chest down. Despite chronic pain Lisa started participating actively in numerous sports (water and down-hill snow ski-ing, wheel-chair tennis and basketball, archery, hot air ballooning and gliding). She became the first wheel-chair bound person in the US to qualify as an aerobics instructor and the first to obtain a certificate in cardiopulmonary resuscitation.

Lisa soon found herself lecturing, attending major conventions and participating in talk shows and thus far accumulated many major fitness and special achievement awards in America and Canada.

She presently co-ordinates the SMART (Seated Movement Aerobic and Resistive Training) fitness system on the Witwatersrand University Fitness Instructors Course and teaches SMART FITNESS CLASSES at Paterson Park Recreation Centre.

Lisa is married to the well know Wits senior lecturer, Dr Mel Siff, a mechanical engineer who is an excercise sports scientist and Olympic weightlifters.

A special tribute must go to Lisa for bringing us the practical example of what children elsewhere in the world have done and her tenacity, enthusiasm and vision in persuading us that we can do the same here in South Africa.

Lisa's major contribution to the success of the Junior Wheelchair Sports Camp proved that people's lives don't end when they are confined to a wheelchair. In addition, the spirit of the camp was such that able-bodied people attending grew as well.

Thank you Lisa and Mel for your contribution and good luck with your life in America.

SPONSORS

Pick'n Pay

Supermarkets **Hypers** **Superstores**

DREAM IT! DO IT!

The children, organizers, counsellors and volunteers wish to acknowledge Pick 'n Pay, our main sponsor, for their enormous contribution to the Junior Wheelchair Sports Camp.
Pick 'n Pay have supplied the Junior Wheelchair Sports Camp with their main sponsorship, food, T-shirts, hats and bags.
Thank you Pick 'n Pay.
Without the continued support this annual camp would not be possible.
Pick 'n Pay have given us all the opportunity to Dream and we have dreamed beyond our expectations.
Many of the children have come to love a particular sport and are participating on a regular basis.

MESSAGE FROM Pick 'n Pay

At Pick 'n Pay we believe sport creates understanding of one another. From which comes tolerance and good will. It's a unifying power of peace.

Since peace is a fundamental necessity for progress, we are enthusiastically backing the development of sport at community, regional and national levels.

We are confident it will, in time, lead to a winning situation for all South Africans. And that's the most important goal of all.

The concept of hosting a Junior Wheelchair Sports Camp, where disabled children can come together for a week and compete on equal grounds, was a unique and special opportunity for Pick 'n Pay. The purpose of this event is not only to teach disabled children how to compete, but to make them believe in themselves and their abilities.

Our social responsibility mission is therefore to foster personal growth and opportunity through leadership and vision, and to participate in the communities in which we trade, with the purpose of positioning Pick 'n Pay as a significant contributor to the reconstruction of South Africa.

Mr Martin Rosen with Jon Bon Jovi and Staff from Pick 'n Pay

Shoot for the moon... even if you miss you'll land amongst the stars.

ACKNOWLEDGEMENTS

The children, organizers, counsellors and volunteers wish to acknowledge the continued support of the Nelson Mandela Children's Fund over the last three years with wheelchairs, T-shirts and funding. **Thank you the Nelson Mandela Children's Fund.**

We would also like to acknowledge the following sponsors who have made the last three years memorable:

Vodacom for funding. **Allied Bank** for funding. **McDonalds** for funding. **Nedbank Trust** for funding. **First National Bank** for funding. **Anglo American** and **De Beers** for funding. **Beacon** for a wheelchair. **Volkswagen** for funding. **Hyundai** for funding. **Coca Cola** for cooldrinks. **Pick 'n Pay** for food. **Federated Insurance** for wheelchairs. **Sweets From Heaven** for sweets. **Royal Beechnut** for sweets. **National Brands** for drinking bottles. **Rhame Guys** for oranges. **Support Services** for buses. **Clinical Emergencies** for wheelchairs. **Nampak** for Toilet Paper/nappies/serviettes. **Becketts/Game** for drinking bottles. **Chocolate Lady** for chocolates. **Nampak Centre Corrugated Division** for cardboard sheets. **Nelson Madela Children's Fund** for T-Shirts, Wheelchairs and funding. **Buffelsfontein Gold Mine** for funding. **Enterprise** for meat. **Chairman Industries** for wheelchairs. **Clover** for Yoghurt and Tropica. **Steers Norwood** for Hamburgers. **PS & Associates** for T-Shirts. **Pizza Hut** for Pizza's. **Aquacoolers** for Aquacoolers. **Wilson Sporting Goods** for Basketball, tennis and soccer balls. **Kentucky Fried Chicken** for chicken. **Valeur** for sun block. **Pick 'n Pay Marketing and Advertising** for bags/hats/T-shirts. **Pick 'n Pay Corporate Division** for Food. **Paterson Park Tennis Club** for the courts. **Becketts** for Game Drinks. **Paterson Park Recreation Centre** for the facilities. **Canyon** for sun block. **Bread Basket** for muffins. **Clinical Emergencies** for Wheelchair Tyres. **Marshall International** for Radios. **Pepsi** for cool drinks. **Pick a Pizza** for Pizza's. **Garth Lemkus Sport** for free standing basketball posts.

Last, but certainly not least, we would like to thank the **Disabled Athletes** who have given up their time to make these camps memorable, fun and informative for the children and volunteers who have attended.

The **Volunteers** who have also given up their time to help with our disabled children. We hope the pleasure you have received in giving is sufficient.

CHAIRS TO BE PROUD OF

For children who cannot walk, wheelchairs are not a privilege but a necessity for daily living. We wish to thank our wheelchair sponsors, the Nelson Mandela Children's Fund, Hyundai, Chairman Industries, Anglo-American & De Beers Children's Fund.

We donated many chairs to the children who had none but kept the sports wheelchairs to be used for our Sports Camps.

LEST WE FORGET

The SA Junior Wheelchair Sports Camp wishes to pay tribute to Neil Sellers - one of our Cerebral Palsied children who attended our first Wheelchair Sports Camp. Neil was not able to do many sports but he loved aerobics and horse riding.

Neil will always be remembered for his sunny disposition and his courage in the face of immense adversity. Neil died shortly after the 1995 Sports Camp.

CELEBRETIES

Ophelia Jaffa (right) spent time motivating the campers. Seen here with guests at 1995 camp.

Jon Bon Jovi with some of the volunteers

Minister Jay Naidoo opening the 1995 Camp

Mrs Mary Metcalf, Mr Peter Skosana and Minister of Sport Mr Steve Tshwete

Though all our volunteers are not recognized as celebrities, we hold them in high regard for giving up their valuable time, their patience and enthusiasm. We are just sorry we could not feature you all.

Hello fellow campers. My name is **Anthony Coldbeck** and I would like to share a few of my experiences, hopes and dreams. I am 21 years old and I suffer from cerebral palsy. I was born three months prematurely at three weeks old my lungs collapsed. At three years old I was involved in a serious car accident with little hope of my surviving, but I did. Through the courage of my parents, perseverance of physiotherapists and will power, I have managed to overcome many a personal mountain.

I became involved with the South African Junior Wheelchair Sports Camp in 1995. I was a counsellor and I felt as if I had grown up. I was the one youngsters turned to for advice or to share a joke. The camp changed my life. I made peace with my handicap and suddenly using a wheelchair was fun!

In April the following year I qualified for the S A Championships for the disabled and walked away with a GOLD. In 1996 I had the opportunity to drive a car with hand controls and it's opened up so many new doors. Having my own transport will definitely set me free. In 1997 I instructed the campers in the field events and once again that week was the highlight of my year. The campers confirmed that courage, perseverance and willpower **WILL** change your life. You can do anything or be anyone within your capabilities if you believe this. I am sure that everyone involved in the annual sportscamp had the same experience, thanks to the organisers, volunteers, sponsors and caterers. The prize-giving ceremony at the end of the week is particularly emotional. I share in every camper's joy. The last hour before we go our separate ways till the next camp is always so subdued and sad. We all feel that the week went by much too fast.

Hasta la vista till 1998.

It is one of the beautiful compensations of life, that no man can sincerely try to be kind to another, without helping himself.

ENTERTAINERS

Peter Taylor & Barbara Purin made a special visit every year to entertain us all

Captain Crime Stop demonstrated the art of alleviating crime

Matthew from M-Net, brightened up the children's day.

Michael de Pinna (Mr Yebo Gogo) enjoying a moment with the Campers

Eco-Life brought many animals and the children had a whale of a time.

CLEMONT LETHOLE

My fulourite sport is basket ball and horse riding but I like to paraisipate in any other sport

I wish they can give us a chance every saterdays to traine us so that I can be a good basket ball player.

I enjoyed everything in the camp I wish it can not stop it must carry on as long as I live. I will like to thank everybody who organised for the camp

GRAHAM Boles

Tennis was my favorite sport but I enjoyed participating in all the sports. I like comming to the camp every year because of the friends I make and for the participation in the sports. The food is good too! I wish they had the camp twice a year like a summer camp and a Winter camp.

Those that bring sunshine into the lives of others cannot keep it from themselves.

PARALYMPIANS

Fanie Lombaard

Former Northern Transvaal rugby wing Fanie Lombaard lost the use of his left leg in a freak accident during a training session in 1992. His leg was subsequently amputated during 1995. Three months after major surgery, Lombaard joined the ranks of the physically disabled sports movement focusing on field athletics. His performance at the Nedbank Athletics Championships in April 1994 earned him selection to the South African Team for the World Athletics Championships in Berlin during July. Fanie took the disabled athletics world by storm winning gold medals in the javelin, shotput and discus events, breaking two world records in the latter. To crown his amazing performances, Lombaard was named as the outstanding male field athlete at the Championships – a remarkable achievement in an extremely elite competition. After a very successful 1996 Nedbank South African Athletics Championship for the Disabled in Preoria during March, Fanie went on to represent South Africa athlete 1996 Paralympic Games in Atlanta. Fanie performed exceptionally well in achieving 2 gold medals in the shotput and javelin events where he also bettered both World records. In addition Fanie was awarded a bronze medal for the discus event in class F8. On 2 November Fanie was awarded the NSC Protea Award as disabled sportsman of the year.

Steyn Humpries

At the April 1995 Nedbank Pick 'n Pay Elite Senior Championships, he broke 2 world records in both the Shot-put & Javelin. Steyn also earned a gold medal and broke the South African record for Discus, plus gold and silver medals in the weightlifting and powerlifting. Also in 1995 he achieved the SA Sports Association for Physically Disabled awards for the Best Field and Track Athlete and the Sportsman of the Year, plus the the NSC Protea award. • Broke World record in Shot-put and Javelin (Class F6). • 1996 Won Gold, Silver and Bronze for Athletics at Paralympic games. Awarded Natal Colours from 1992 for Athletics, Swimming and Powerlifting. Current SA Record Holder – Discuss (Class F6).

In between all this Steyn found the time to visit the South African Junior Wheelchair Sports Camp and coach the campers. Steyn is now working on golf for the disabled and we look forward to hearing from him soon.

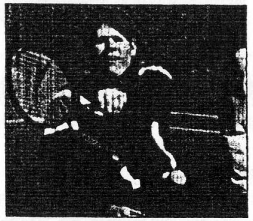
SPORTS PERSONALITIES

Moekie Grobbelaar

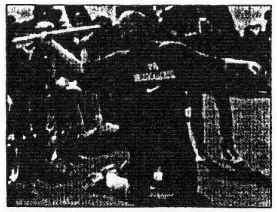
Craig Farrell seen here with Abby

Willie Mulder and Kevin Smith

Randy Snow – a top American Tennis Paralympian Gold Medalist



Doug Louw

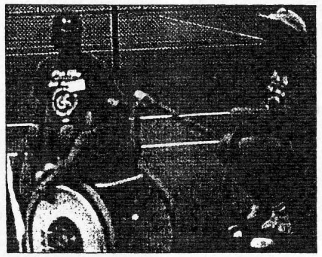


Tom Petranoff

Thomas Louw

I have always dreamt up there with the stars. If I didn't I would never have come close.

TENNIS

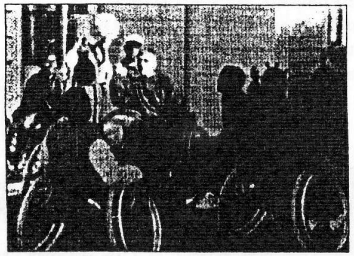


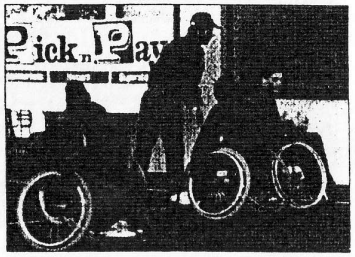
Tennis (a firm favourite) was enjoyed by all. A big thank you to Kevin Smith for his ongoing support. Thanks also go to Craig Farrell for his help.

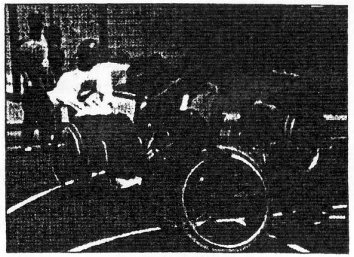
Austin Betha

I love baskit ball and weight
I love Raid on A hose and Tenes
I EnJoy The Canp very much

BASKETBALL



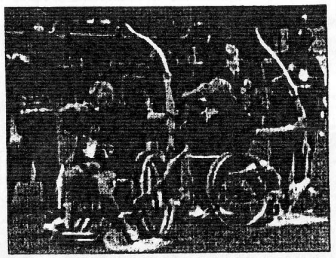




With the huge success the Eagles enjoyed this season we can only expect wonderful coaching and results from Willie Mulder, our basketball convenor.
Basketball is the most popular sport amongst our campers. With the sponsorship of sports wheelchairs we can now facilitate most of our campers that do not have their own chairs.

The greatest pleasure in life is doing what people say you cannot do.

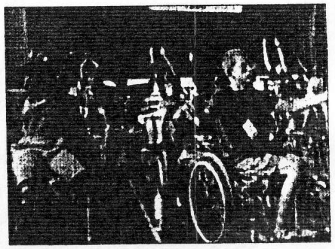
ARCHERY



Archery, a sport not tried by many of our campers, was thouroughly enjoyed by all.
Many thanks to Loets Smit and Ken McKenzie for all their inspiration and commitment.

Johannes Nkosi
In this camp I like track, Aerobics. Tennis, bocce and Basketball. When I play basketball I feel great. I enjo this Camp Camp + very much.

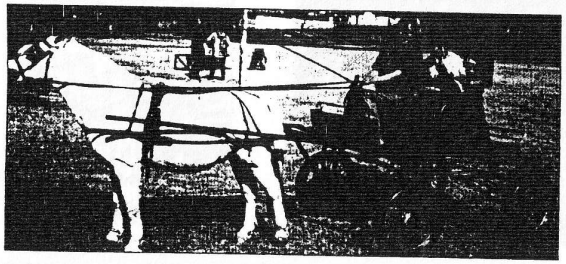
AEROBICS

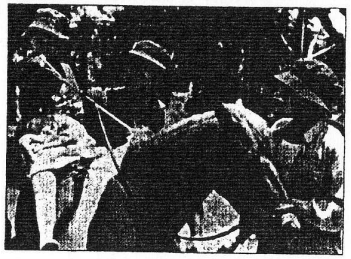


In September I was informed that as I was the best pupil of Lisa's class, I would be taking the aerobics at the camp as she and Ellen were going to be too busy with the organisation of the camp. With a certain amount of nervousness, I practiced the moves and calls with Fiona, one of the physios who were also attending Lisa's SMART classes. As the opening day drew near the thought of having to take my first class ever, in front of the media and our President, was quite daunting. With all the excitement of the opening ceremony and the celebs like Jon Bon Jovi around, there wasn't enough time for nerves. The expressions on the faces of the children trying out all these new movements, will forever be imprinted on my memory. A daily regime of six hours of aerobics together with assisting with the running of the camp, takes quite a lot of energy and at the end of the week, with the prize giving over, I collapsed at my home in emotional tears. As a reasonably active disabled person, it was an eye-opener to see the disabled children of our land who have been so shut off from life-experiences blossom and open up while learning new sports and inte-acting with the others present. I felt privileged to have been able to be part of this new sports development programme and decided to jump in with both feet and be on the organising committee. Now, three years later, with the progress of this concept to its new home venue, mini-camps and future regional ones, we are really achieving Lisa's goals. I hope that we keep going from strength to strength. Neill - my first aerobics trophy winner - your smiling face will forever be my inspiration to help keep disabled children's dreams alive!! - Mandy Latimore, Aerobics Instructor.

The best portion of a good man's life is his little nameless, unremembered acts of kindness and love.

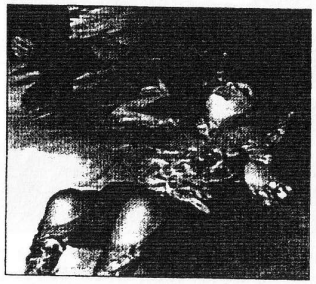
HORSE RIDING





Riding therapy SARDA style is not a question of giving pony rides. It involves teaching handicapped people to actually ride horses as far as their individual disability will permit. SARDA offers camaraderie, a change from daily routine, the opportunity to exercise in the fresh, the feel and smell of horses and the freedom and mobility a horse can give. What a change from sitting in a wheelchair and looking up at people all the time! Riding therapy benefits both intellectually challenged and physically disabled people. Contact with horses brings much pleasure into otherwise rather restricted lives.
It increases self-esteem and co-ordination, improves concentration and even helps to encourage a sense of responsibility as well.
The South African Junior Wheelchair Sports Camp would like to extend their thanks to SARDA for the support of this camp. To all the trainers and helpers who gave their time (too many to mention) you have our gratitude as this was a firm favourite with all our campers.

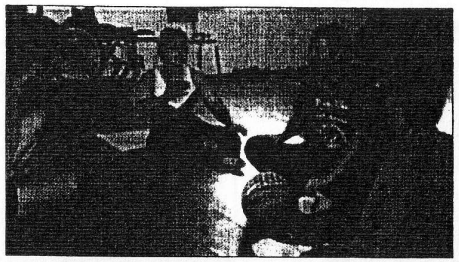
SWIMMIMG

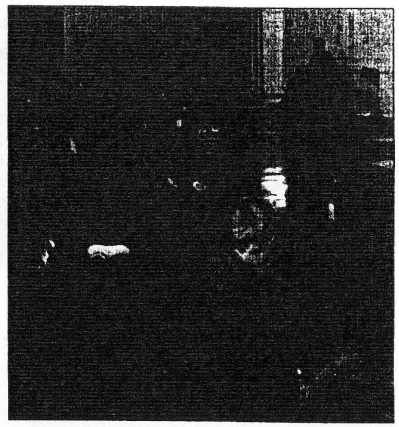


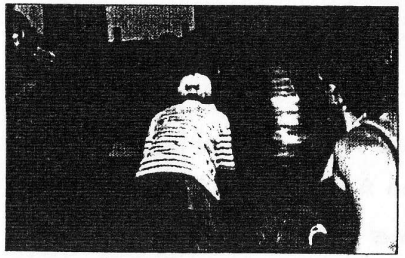
The swimming pool is a constant hive of activity; gleeful shrieks gurgling and echoing in the moist and humid atmosphere of the bathing room. For many, it is the first time they enter into such a big body of water.
The initial fear heard in gasps, soon give way to soft relaxed sighs and gurgles of pleasure, as the tormenting hindrances caused by gravity, dissipate in the almost weightless environment of water and therapy begins.
A special mention must go to David Flack and Julia Puren whose efforts cannot be measured, for who can measure the smile on a face of one who really enjoys moving, doing, feeling and trusting an environment that allows for that which cannot be done within the constraints of land.
My work, as well as that of my colleagues, becomes a pleasure and a lesson. Pierre Puren, Swimming Instructor.

Friends are kind to each other's hopes, they cherish each other's dreams.
Thank you for being my friend.

WEIGHT TRAINING







Moekie Grobbelar, Gold Medalist and Paralympian took the Weights Training and Floor Soccer for all three camps. This created a huge impression on the youngsters and gave them a love for both disciplines.

TRACK & FIELD

Fanie Lombard and Steyn Humphreys (our two Paralympians featured on page 10) trained all our campers. The javelin and discus throwing became a firm favourite and the wheelchair races were a lot of fun.

Twice world record holder, Africa record holder, American record holder, twice Olympian record holder and Athletic's Coach 1996 South African Paralympic Team,
Tom Petranoff seen here with our campers.

I have spread my dreams under your feet.
Tread softly because you tread on my dreams.

Editor: Celeste Mukhelbir (011) 678 5685 • Layout & Design: Colin le Grange (011) 671 2628 • Repro: Camp O Print (011) 474 9048 • Print: Color Dynamix (011) 444 3450

AND THEN THERE WAS FUN

Bianca and partner arm wrestling for the bun that Luis has on his thumb

All the Counsellors keeping "Mum" about something. Or maybe they are just too tired to speak.

Duane thought he would give us a Bugs Bunny impression

Take a peek, the snake is real, but very, very friendly guys

By the end of the Camp there were still those Campers who were not sure what the fuss was all about

The Counsellors were still hungry so they danced for more lunch

And then there were some Campers who were an inspiration to all of us

And who's muscles are the biggest ??? ... they obviously have not seen mine.

And who is hogging all the volunteers

Development Sport is available at Mandeville Sports & Social Club for the Physically Disabled
If interested contact Charmaine Hooper Tel: *(011) 616-7576*
Fax: (011) 622-8340 Write to: *PO Box 19193, Kengray 2001*

Contact Numbers for SARDA
Cape Town *(021) 794-4393* • **Durban** *(031) 309-1219 or (031) 21-1611*
Gauteng *(011) 958-0483 or (011) 958-1319* • **Kwa-Zulu Natal** *(0325) 3-4710*
Pietermaritzburg *(0331) 43-4403* • **Port Elizabeth** *(041) 30-2955*

GROUP PHOTOGRAPH OF CAMPERS AND HELPERS